



RemoteMix 2™ Broadcast Field Mixer



User Guide

Welcome

Thank You

Thank you for purchasing a JK Audio RemoteMix 2 Broadcast Field Mixer. 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 at:

815-786-2929

Email us at:

support@jkaudio.com

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

Limited Warranty

The RemoteMix 1 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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Safety Precautions



Caution: To prevent possible hearing damage, avoid listening at high volume levels for long periods.

RemoteMix 2 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.



Handle with Care

While RemoteMix 2 was designed to be very rugged and durable, it is not waterproof and care should be taken to keep the unit dry.

Features

Features

HD Voice Compatible
(7 kHz Wide-Band Speech)

Connects to Wireless Phones
& Notebooks

4-conductor 3.5mm Headset Interface

Four XLR Mic Jacks

Mic/Line Pad Switch

¼" Headphone Jacks with Individual
Level Controls

In the Box

Universal Power supply with
detachable cord

3.5 mm 4-conductor Wireless
Interface Cable

3.5 mm Send and Receive Jacks

LED VU Meter

Phone Line Hybrid with DTMF
Keypad

Hot Swappable Dual 9V Batteries and
120-240 VAC External Power Supply

60" RJ11 Phone 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 RemoteMix 2™

JK Audio introduces RemoteMix 2, a two-channel field mixer and headphone amplifier. More than just a field mixer, this is a universal communications interface. RemoteMix 2 features a phone line hybrid and keypad, and a wired headset communications interface. These parts were designed to work together, saving setup time in the field.

Radio – RemoteMix 2™ is perfect for live remotes. Use it as a phone line hybrid, calling into your studio talk show hybrid. Use it as a front-end mixer for your POTS, ISDN, IP or smart phone codec.

TV – RemoteMix 2™ combines a small front-end mixer with two powerful ¼” headphone outputs. Send and receive interview audio while pulling IFB off the phone line, cell phone or notebook.

Getting to Know Your RemoteMix 2



Controls & Indicators

1. Mic Level Controls

Each XLR input has a level control knob.

2. Headphone Controls

Each headphone outputs has a separate level control so each listener can adjust their audio level independently.

3. Aux In Control

Adjust the level of audio coming in through the 3.5 mm **<Aux Line In>** jack.

4. Cue Control

The **<Cue>** input control adjusts the signal going to the headphones from the 1/4" **<Cue Input>**. When using the 1/4" Cue Input Wireless Interface, the individual headphone level control adjusts the overall level of your headphones while the **<Cue>** input control adjusts the level of the person on the other side of the call in both headphones. You should keep in mind that your wireless telephone also has level control. If you are having level problems that cannot be corrected with the controls on the RemoteMix 2, try adjusting the level on the wireless telephone itself.

5. Keypad

The telephone keypad provides DTMF tone dialing. You may use the keypad at anytime during a call but keep in mind that both transmit and receive telephone audio are muted during a keypress.

Controls & Indicators Cont'd

6. Power

This is the main power switch that turns the unit on. Whenever the power is turned on, the red LED above this switch will be lit. The green AC LED will be lit whenever a live AC power source is connected, even if the main power switch is off.

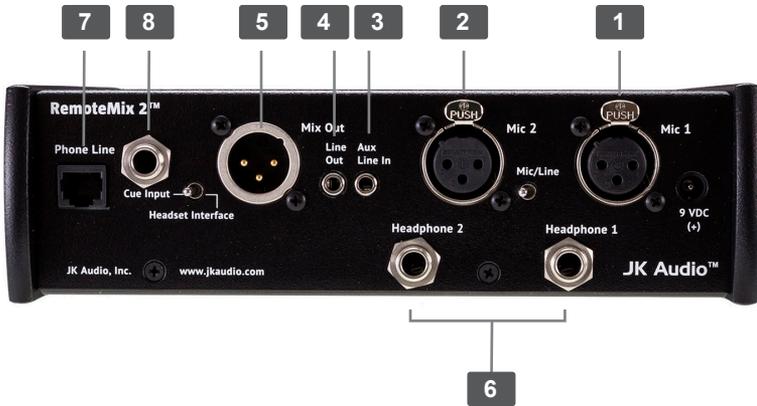
7. Phone Line Switch

When using the RJ-11 analog phone jack, this switch acts as the switch-hook for the telephone line. The *up* position is when you are not using the line or you are waiting for a call. When you want to place a call, or when a call comes in, switch to the *Dial / Talk* position.

8. Ringer

RemoteMix 2 does not have an audible ringer but there is a visual ring indicator that will flash for incoming calls. This red LED is located to the right of the keypad.

Getting to Know Your RemoteMix 2



Inputs & Outputs

- 1. Mic Input 1**
Balanced XLR jack with low-noise pre-amplifiers.
- 2. Mic Input 2**
Balanced XLR jacks with low-noise pre-amplifiers. A **<Mic/Line>** selector switch adds a 40 dB pad for a line level balanced input.
- 3. 3.5 mm Line Level Input**
You can connect either a mono or stereo signal to this mini jack. If you use a stereo input, both channels will immediately be summed together.
- 4. Stereo 3.5mm Line Level Output**
Can be connected to your mini disk or other recording device. The **<Master Output>** will be on the Left channel and the Receive mix from the phone line and/or Cue input on the Right channel.
- 5. Master Output**
A balanced XLR jack that contains the sum of all both XLRs and the 3.5 mm input. This audio signal has a full 20 Hz to 20 kHz bandwidth.
- 6. Headphone Jacks**
Headphone output is a mix of local mic and line inputs including the return from the phone line.

Phone Line Connection

7. Phone Line

The RemoteMix 2 has an RJ-11 jack that can be connected to any standard, single line analog telephone line. This jack should not be connected directly to digital PBX or ISDN phone systems.

8. Wireless / Cellular Telephones

RemoteMix 2 comes equipped with a **<Headset Interface>** built in to the 1/4" **<Cue Input>**. This 1/4" headset interface accepts a specially designed 1/4" to 3.5 mm cable provided with the unit. This interface works with any wireless phone or notebook that accepts standard third party headsets and earpieces. Your product has been supplied with a 1/4" TRS to 3.5mm TRRS interface cable. While the majority of current wireless phones use a 4 conductor, 3.5mm TRRS headset jack, some older phones use a 2.5mm TRS headset jack. If your phone uses this smaller 2.5mm headset jack, you may contact our support department to request a compatible interface cable.

When using the wireless interface, it is important to keep your wireless telephone 12" - 24" away from the RemoteMix 2 and any microphone or headphone cables. This will help prevent unwanted RF noise from entering the unit.

Getting Connected

Setting Up

1. Connect your audio equipment, microphones, cue input, and headphones to the input and output jacks on RemoteMix 2.
2. There are 2 ways to connect the RemoteMix 2 to the phone line:
 - A. **For Analog Phones:** Connect the jack marked **<Phone Line>** to any standard analog telephone line, **or**
 - B. **If there is no Land Line:** Connect the **<Headset Interface>** jack to the headset jack on your cellular telephone using the supplied JK Audio interface cable.

The 1/4" Headset Interface jack also serves as a Cue Input that feeds the headphones. This signal does not reach the XLR output but will be present on the right channel (return) of the stereo output.

Making a Call

There are also 2 ways to initiate an outbound call with the RemoteMix 2. First turn on the power switch and flip the Phone Line switch to *Dial/Talk*.

- A. When connected to an analog line:** Simply answer or dial your call. You are now ready to broadcast or record a telephone interview.
- A. When connected via the 1/4" Cue Input / Headset Interface:**
Dial the call with your cellular phone handset. Audio will automatically be transmitted and received through the RemoteMix 2 audio inputs and outputs. The phone's internal speaker and microphone will be disabled during the call. Feel free to leave your phone connected to power throughout the broadcast to conserve battery power.

IFB

If using the phone line or handset interface for an IFB feed, the 1/4" headphone jacks may be used to feed an IFB earpiece or other device.

Power

Power

RemoteMix 2 is powered by two 9 volt alkaline batteries located on the side of the unit. The red **<Power>** LED on the front of the device will gradually dim as the battery runs down, then extinguish about a half hour before the unit shuts down. Since these two batteries are in separate drawers and wired in parallel, you can hot swap one battery at a time so you never lose power.

It is important to replace both at the same time with identical batteries. If two fresh batteries are not available, it is better to run using only one good battery. Since the battery fixtures are wired in parallel, it does not matter which one gets the single battery.

We also provide a high quality, regulated AC to DC adaptor to power RemoteMix 2 when AC power is available. Simply plug it into the back of RemoteMix 2 and plug the transformer into a wall outlet. This is a switching power supply so you can connect to a 110 or 220 VAC power source. When the power connector is inserted into the jack, the batteries are bypassed. The AC adaptor does not charge the batteries. If you lose power during your broadcast, the RemoteMix 2 automatically reverts to battery power so your broadcast will not be interrupted.

Make sure you use only the supplied AC power adaptor with the RemoteMix 2. Using any other adaptor could damage the unit.

WARNING! It is strongly recommended that this product be connected to an adequate surge protection device for the power line as well as the telephone line at all times.

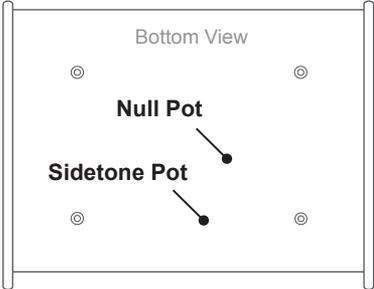
Hybrid Null

The Hybrid Null trim pot adjusts the level of transmit audio that comes back mixed with the caller audio. To adjust this control, you must be off-hook on an active call into a quiet location. Begin by sending white noise or a test tone into any one of the RemoteMix 2 inputs. While monitoring the right channel of the 3.5 mm output jack, insert a small flat blade screwdriver into the null trim pot, then slowly rotate the pot back and forth to find the minimum or lowest audio return. Replace the hole plug when finished.

Sidetone Level

The Sidetone Level trim pot adjusts the level of send (transmit) audio that is present in the headphone outputs. While this adjustment allows intentional Sidetone to be turned off for most use cases, there will always be an unintentional sidetone return (line echo) when using the phone line hybrid. There may also be a sidetone return when using the Headset Interface, depending on the model of wireless phone connected. Make this adjustment

while wearing a broadcast headset, or separate headphones and microphones. Ideally, this adjustment is made with two people on headsets, after setting mic and headphone levels for broadcast. To adjust intentional sidetone level, insert a small flat blade screwdriver into the Sidetone level trim pot and adjust to desired level. Replace the hold plug when finished.



FAQs

1) How long will the batteries last in my RemoteMix 2?

There are many variables that affect battery life. All of our battery-life tests included 2 headphones playing music at average listening levels with standard alkaline batteries.

The following is a lab test result and may not represent your usage:

12 Hours of broadcast through the phone line hybrid, using dynamic microphones.

2) Why doesn't my RemoteMix 2 ring when a call comes in?

The audible ringer found on some of our other RemoteMix units was replaced with a visual ring indicator on the RemoteMix 2. This red LED flashes when a call comes in. The **<Ring>** indicator is located directly below the keypad on the front of the unit.

3) Will any cellular telephone work with RemoteMix 2?

The wireless interface on the RemoteMix 2 works very well with most cellular telephones. However, some wireless telephones generate excessive RF noise which can be heard as a "chattering" or "motor boat" sound. The noise from these particular telephones will be unacceptable for most broadcast applications.

RemoteMix 2 is supplied with a 1/4" TRS to 3.5mm TRRS interface cable. While the majority of current wireless phones use a 4 conductor, 3.5mm TRRS headset jack, some older phones use a 2.5mm TRS headset jack. If your phone uses this smaller 2.5mm headset jack, you may contact our support department to request a compatible interface cable.

4) What kind of device can I connect to the Cue Input?

Setting the switch for the dual-purpose 1/4" input to **<Cue Input>** will provide a standard line level input for connection to another audio device, such as a portable radio. The audio signal will be sent to both of the headphone outputs. This way, your announcers can listen for a cue from their radio station at the end of a station break.

5) The cellular interface cable was left behind at our last event. Can I get a replacement at our local audio supply store?

This is a custom made cable and is not wired the same as those that may be available at your local electronics store. Please contact your JK Audio dealer or our Customer Service department and ask for a CN113 replacement cable. The CN113 has a 3.5 mm TRRS headset plug. Most newer phones, especially those that include a mp3 player, have a 3.5mm TRRS headset jack and therefore require the CN113 cable.

6) The output from Mic 2 is very low but the other mics are fine.

Check the position of the **<Mic/Line>** switch near **<Mic 2>**. This input can be switched to accept a line level signal from a mixer or other equipment.

7) How can I tell how much battery life is remaining?

The red <Power> LED functions as a battery life gauge that will gradually dim as the battery runs down. This red LED will go completely dark about a half hour before the unit shuts down. Keep in mind that the VU meter will remain bright until the unit stops functioning.

8) Does the AC power supply charge the batteries?

No. The AC Power supply does not charge the batteries.

9) I have lost my power supply for my RemoteMix 2 unit. I have a power supply that fits from a different product. Can I use this instead?

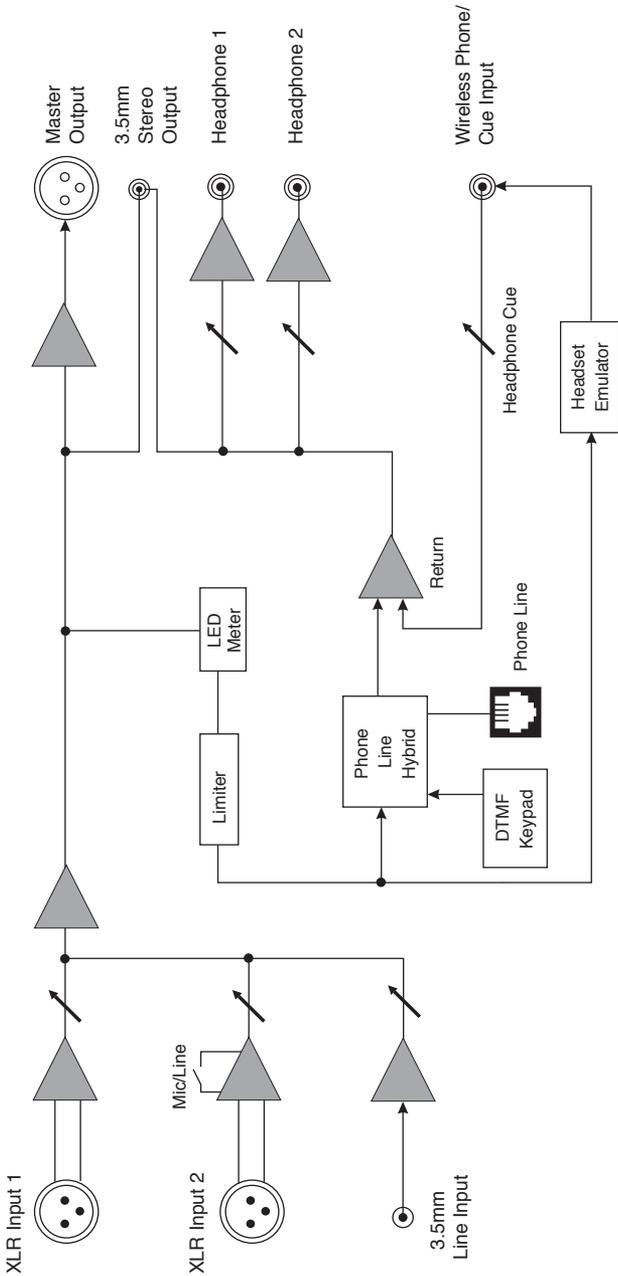
No. Never use a power supply other than the one that was supplied by your manufacturer. Power supplies are available in either AC or DC output with many combinations of voltage and available current. Most consumer power supplies are not regulated. This could invariably damage your equipment, and also create a great deal of noise. Our products are designed for and tested with their respective power supplies for optimum operation. If you have lost your power supply, please contact your JK Audio dealer or our Customer Service department and ask for a PS009 power supply for your RemoteMix 2.

Technical Information

Specifications

Input	Impedance / Level
Female XLR (2) Mics	2k ohms / -25 dBu nom (Channel 2: Mic/Line pad switch = +6 dBu max)
1/8" (3.5mm) Stereo Line	20k ohms / -10 dBm nom
Headphone Cue 1/4"	20k ohms / -10 dBu nom
Output	
Balanced Male XLR	+16 dBu max, 20 Hz - 20 kHz, +/- 1dB
1/8" (3.5mm) Stereo	100 ohms, -10 dBu nom
Headphone 1/4" Stereo	8 ohms / 1/3 watt per channel
Misc.	
Phone Line Connector	RJ11C
Ringer	0.5B REN
Isolation	3750 VAC
Power	100-240 VAC, 50-60Hz or Two 9 VDC batteries
Size	7.75" x 6.5" x 2.3"
Weight	2.1 lbs (960 g)

RemoteMix 2 Block Diagram



FCC Registration

FCC Registration

Your new JK Audio product has been registered with the Federal Communications Commission (FCC). This product complies with the standards in Part 68 of the FCC rules.

1. Connection and use with the nationwide telephone network

The FCC requires that you connect this telephone equipment to the national telephone network through a USOC RJ-11C modular telephone jack. This equipment may not be used with Party Line Service or Coin Telephone Lines. This equipment is hearing aid compatible.

2. Information for the telephone company

Upon request from your local telephone company, you are required to provide the following information:

- A. The "line" to which you will connect the telephone equipment (that is, your telephone number), and
- B. The telephone equipment's FCC registration number. This can be found on the bottom of your telephone equipment, and,
- C. The ringer equivalence number (REN) for this equipment. The REN is used to determine the quantity of devices which will be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed 5.0. To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the local telephone company.

3. Repair Instructions

If it is determined that your telephone equipment is malfunctioning, the FCC requires that it not be used and that it be unplugged from the modular outlet until the problem has been corrected. Repairs to this telephone equipment can only be made by the manufacturer or its authorized agents or by others who may be authorized by the FCC. For repair procedures, follow the instructions outlined under the warranty section of the manual.

4. Rights of the telephone company

If telephone equipment is causing harm to the network, the telephone company may temporarily discontinue your telephone service. If possible, they'll notify you before they interrupt service. If advanced notice isn't practical, you'll be notified as soon as possible. You'll be given the opportunity to correct the problem, and you'll be informed of your right to file a complaint with the FCC. Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your JK Audio product. If such changes are planned, you'll be notified by your telephone company.

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 1311 E 6th Street
Address: Sandwich, Illinois 60548 USA

Declares that the product:

Product Name: RemoteMix 2 Broadcast Field Mixer
Model Numbers: RemoteMix 2

Conforms to the following Product Specifications:

Safety: IEC 60950-1:2005 (Second Edition)
CAN/CSA-C22.2 No. 60950-1-07
UL Standard 60950-01 2nd edition

ESD: EN 55024:2010+A1:2015
EN 61000-3-2:2014
EN 61000-3-3:2013

Emissions: FCC Part 15, Subpart B
ICES-003, Issue 6
EN 55032:2012
AS/NZS CISPR 32:2013

Telecom: FCC CFR 47, Part 68
TIA968-B-1, B-2, B-3
CS-03 Part 1

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

LVD 2006/95/EC (Safety)
R&TTE 1999/5/EC (Telecom)
EMC 89/336/EEC (EMC)
RoHS Directive 2015/863

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

RemoteMix 2™
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