

RemoteMix Sport

Phone Line Hybrid *and*
Telephone Handset Interface
for Remote Broadcasts



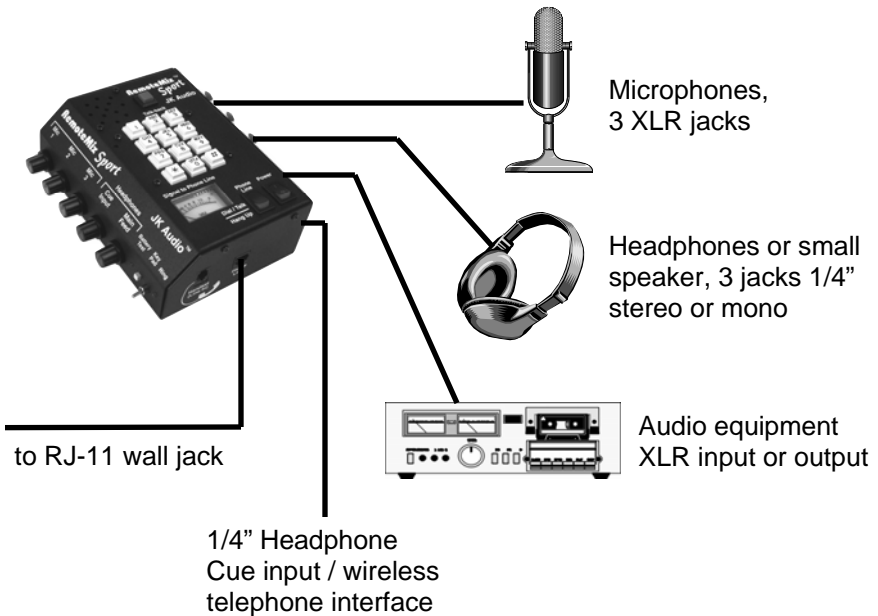
User Guide

JK Audio

Connection

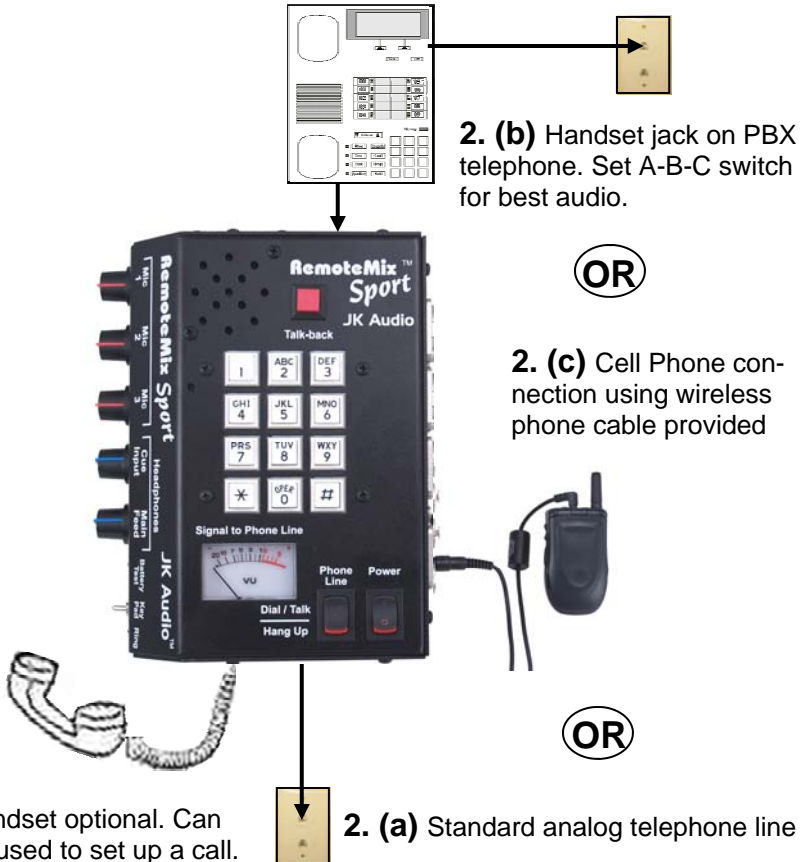
RemoteMix Sport is a professional audio mixer designed to work on any standard analog telephone line or you can unplug the handset on most PBX or digital telephones and connect the phone to the built-in universal handset interface. It can also connect to many digital cellular telephones using the specially designed cell phone interface cable supplied with the unit.

Simply plug your audio equipment into RemoteMix Sport and connect to a phone line. You can now put on your headphones, plug in a microphone and you are ready to broadcast the game or talk up a taped interview. The balanced XLR line output jack provides a high quality connection to mixers and professional tape gear.



Operation

1. Connect your audio equipment, microphones, cue input, and headphones to the input and output jacks on RemoteMix Sport.
2. (a) Connect the jack marked "Phone Line" to any standard analog telephone line, **or**
(b) Disconnect the handset on an existing telephone and plug the coily cord from the phone into the PBX handset interface jack on RemoteMix Sport, **or**
(c) Connect Wireless Phone Interface jack to the headset jack on your cellular phone using the supplied cable.
3. Turn on the power switch, flip the "Phone Line" switch to "Dial/Talk", flip the keypad switch to "On" (only if dialing with the RemoteMix Sport keypad) and dial your call. You are now ready to broadcast or record a telephone interview.



Operation (continued)

Wireless / Cellular Telephones

RemoteMix Sport units purchased after February 15, 2001 come equipped with a cellular telephone interface built into the 1/4" Cue Input. This 1/4" wireless interface accepts a special 1/4" to 2.5 mm cable provided with the unit. This interface will work with any wireless phone that can accept standard third party headsets and ear-piece headsets. Some wireless telephones have the standard 2.5 mm jack while others have proprietary jacks. Adapters to convert the proprietary jack to the standard 3-conductor 2.5 mm jack are available for most wireless telephones through their dealers, local electronic stores or many internet stores.

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

The wireless interface on the RemoteMix Sport 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 Sport may also be used with wireless analog (bag) telephones in conjunction with their proprietary fax / modem adapters. In this instance the fax / modem adapter replaces the RJ-11 wall jack shown on page 2.

Tone / Pulse Dialing

RemoteMix Sport is equipped with a switch to select tone (DTMF) dialing or pulse dialing. The switch is located underneath the battery door. With the switch towards the volume control knobs, the unit is in the "pulse" mode. When in "pulse" mode the "*" key will set the unit to transmit digits as tones regardless of the switch position. To return to pulse dialing, turn the keypad off and back on.

Operation (continued)

Handset Interface

If you do not have access to an analog phone line or if the phone system is a digital or analog PBX, ISDN, or a key telephone system, you can use the built-in handset interface. Disconnect the telephone handset from the coily cord and plug the cord into the RemoteMix Sport PBX Handset Interface Jack. Now select the handset type on the 3 position switch.

Trial and error works faster than a chart of handset types, but this basic description may help.

Switch Position	Handset Microphone Type
A	Electret
B	Dynamic
C	Carbon



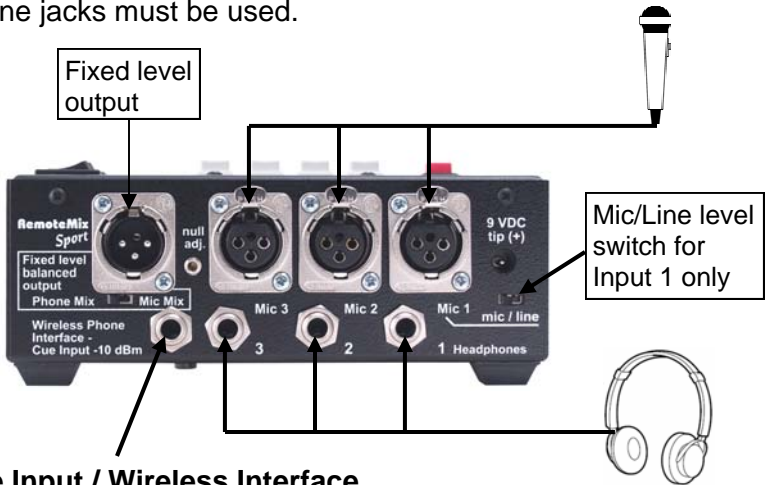
Talkback Feature

A built in speaker lets you monitor the phone line during call setup and station breaks. The monitor speaker volume is controlled by the headphone volume control and has an additional on / off switch (near the A-B-C switch). An internal push-to-talk microphone (see page 9) also helps when setting up your call. The speaker switches off when the microphone button is pushed on to prevent feedback.

Operation (continued)

XLR Output

This fixed level male XLR output also includes a switch for Phone Mix or Mic Mix. If you are using the 1/4" cue input / wireless interface for your telephone connection, the far side of the call will not be present on the XLR output. To obtain a signal containing both sides of the conversation while using this setup, one of the 1/4" headphone jacks must be used.



1/4" Cue Input / Wireless Interface

The RemoteMix Sport includes a 1/4" Cue Input that feeds only the headphones. Connect any 50 ohm output to this jack, such as the headphone out from your personal audio player. This signal does not reach the XLR output.

This same 1/4" jack is also an interface for your wireless telephone. By using the special 1/4" - 2.5 mm cable provided with your unit, you can interface to most wireless telephones that accept third party earpiece / headsets. This 1/4" - 2.5 mm cable is not simply an adapter cable and should not be used with other equipment. The wiring configuration is different from other TRS to TRS cables. The "tip" and "ring" portions of this cable are reversed in order for the interface to work properly. Possible damage to your equipment could result from misuse of this cable.

Headphones

The built-in headphone amplifier is strong enough to power three pairs of headphones or a small desktop speaker. The left and right channels contain the same mono signal, but are powered by separate amplifier channels. These jacks will drive either three 1/4" stereo plugs or three 1/4" mono plugs.

Operation (continued)



Keypad ON / OFF

This switch disables the DTMF keypad to prevent tones from being blasted down the phone line during a broadcast.

Send Side (To Phone Line)

There are separate volume controls for each of the three microphone input jacks. You can use all three inputs at the same time. Mic 1 also has a Mic/Line selector switch which lowers the gain on the Mic 1 XLR jack by 30 dB to allow a balanced line level input.

Receive Side (From Phone Line)

The receive side has separate controls for headphone cue input level and main feed level. The *Cue Input* control adjusts the signal going to the headphones from the 1/4" Cue Input. The *Main Feed* control adjusts the headphone level of the three XLR inputs. This does not adjust the XLR output. When using the 1/4" Cue Input Wireless Interface, the *Main Feed* control adjusts the level of your own voice in the headphones while the *Cue Input* control adjusts the level of the person on the other side of the call in your 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 mic controls on the RemoteMix Sport, try adjusting the level on the wireless telephone itself.

Ringer

RemoteMix Sport does not have an audible ringer but there is a visual ring indicator that will flash for incoming calls.



Handset Jack

The handset jack on the right side of RemoteMix Sport allows you to plug in a telephone handset and quickly set up a call before you set up your microphones and headphones. All telephone handsets are different, so if yours is not compatible, try an AT&T, Sony, or Radio Shack residential telephone handset.

Phone Line

Connect this RJ-11 jack to the wall jack of a standard, single-line analog telephone line.

IFB

If using the phone line or handset interface for an IFB feed, the balanced male XLR output may be used to feed an IFB earpiece or other device. If using the 1/4" cue input / wireless adapter jack for the telephone connection, the IFB feed must be taken from one of the 1/4" headphone jacks. This also applies if you are planning to record both sides of the conversation while using the 1/4" wireless adapter jack for the telephone connection.

Operation (continued)



Talkback Feature

A built in speaker lets you monitor the phone line during call setup and station breaks. The monitor speaker volume is controlled by the headphone volume control and has an additional on / off switch (near the A-B-C switch). An internal push-to-talk microphone also helps when setting up your call. The speaker switches off when the microphone button is pushed on to prevent feedback.

Keypad

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

VU Meter

The VU meter shows the mix of the microphones and the tape signal going out over the phone line or to the handset interface.

Phone Line Switch

When using the RJ-11 analog phone jack, this switch acts as the switch-hook for the telephone line. The *Hang Up* position is the normal on-hook position 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.

When using the Handset Interface, the switch should be in the *Hang Up* position. When using the 1/4" Wireless Interface, the switch should be in the *Dial / Talk* position.

Operation (continued)

Power

RemoteMix Sport is powered by two 9 volt alkaline batteries located under the cover on the bottom of the unit. Under normal use, you should get at least 30 hours of continuous use from a fresh set of batteries.

To test the batteries, simply press the *Battery Test* button on the front of the unit. If the LED lights, the batteries are still good. The unit may still function if the LED does not light, but there will be significant audio distortion and a loss of level as the batteries continue to discharge.

The batteries are wired in parallel so 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 adapter to power RemoteMix Sport when AC power is available. Simply plug it into the back of RemoteMix Sport and plug the transformer into a 110 VAC wall outlet. When the power connector is inserted into the jack, the batteries are bypassed. The AC adapter does not charge the batteries. **Make sure to use only the supplied AC power adapter with the RemoteMix Sport. Using any other adapter may damage the unit.**

FAQs

? **The output from Mic 1 is very low but the other mics are fine.**

! Check the position of the Mic/Line switch near Mic 1. This first input can be switched to accept a line level signal from a mixer or other equipment.

? **Can I wire a stereo mini output to the XLR input of a Sport?**

! Yes. You need to wire the tip to pin 2, the sleeve to pin 1, and leave the ring and pin 3 floating. You should use the Mic 1 input since it is mic/line switchable, and use Mic 2 and Mic 3 for additional mics.

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

! The Cue Input accepts a signal from the headphone output jack of any audio device such as a portable radio or MP3 player. The 50 ohm impedance is too low to be driven by most line level outputs.

FAQs

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

! The audible ringer found on other RemoteMix units was replaced with a visual ring indicator on the RemoteMix Sport. It is a red LED that flashes when a call comes in. The indicator is located next to the keypad toggle switch on the volume control panel.

? Will your RemoteMix Sport provide phantom power for my condenser microphone?

! No, our devices will not provide phantom power. If you are connecting your microphone directly to a JK Audio RemoteMix, you should use a dynamic mic.

? How do I adjust the level of the balanced output on the RemoteMix Sport?

! The Balanced XLR output of the RemoteMix Sport is a fixed line level output. If needed you should adjust the audio level at the input of the device you are sending audio to.

? I've lost my power supply for my RemoteMix Sport unit. I have another 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. DC supplies carry either positive or negative center pin output and may or may not be "regulated". If you connect a negative center pin power supply to a positive center pin jack, it's just like hooking up the battery cables to your car backwards. Obviously you would not want to do this to your car or your expensive audio equipment. "Regulation" is the tolerance to the specified voltage of your DC power supply. All of our DC power supplies have a low noise 5% tolerance. This means that our 9V DC power supplies will always output 9 volts +/- 5%, whether you are using no power at all or applying a full load. Most consumer power supplies are not regulated. A non-regulated 9V, 800mA power supply could actually output 16V until an 800 mA load is applied. This could invariably damage your equipment, and also create a great deal of noise. There is also no standard for the size of your power jack. This means that a 16VAC power supply and a 1.5VDC power supply could both have the same 2.1mm jack.

Hybrid Null Adjustment (optional)

The receive side of RemoteMix Sport has a hidden fine tuning control which is adjusted by inserting a small flat blade screwdriver into the back of the unit just below the words *Null Adj.* and turning left or right. This is a ten-turn potentiometer. This adjustment controls the level of transmit audio that appears on the receive audio jacks. The null circuit matches the characteristics of RemoteMix Sport with the characteristics of the telephone line. Although much of the transmit audio can be removed, this is not the equivalent of a mix-minus output.

The amount of transmit/receive isolation will depend on the quality of the telephone line. This circuit is factory set to give a good mix on an average telephone line, and is therefore perfect for recording both sides of a telephone interview.

To find the absolute null for any telephone line, follow this procedure:

1. Place a call to a quiet location.
2. Send a signal down the line at moderate levels, this can be a pre-recorded tape of music or speech, or preferably a test signal.
3. Connect the *Receive* line output to a meter or scope, or listen to the receive signal over the headphones. Be sure to turn up the *From Phone* or *Headphones* volume control depending on which method you are using to monitor the receive signal.
4. On the back of RemoteMix Sport, below the words *Null Adj.*, there is a hole for a small flat blade screwdriver. This is a 10-turn potentiometer to allow for very sensitive adjustments. Try to remember the position of the blade, and the number of turns you are making as you first adjust clockwise, and then back to the original position, and then counterclockwise. The goal is to adjust the null pot until the receive signal contains a minimum amount of transmit audio. However, if you want a good mix of transmit and receive signals, you must have someone on the far end speak or send audio down the line as you adjust for the proper balance.

To Reset Null to Factory Setting:

Disconnect from phone line, switch the Phone Line switch to On Hook, and set the null to minimum. This presets the null to an average phone line impedance.

Specifications

Inputs:

- Microphone: Female XLR, 1k ohms, -10 mV RMS (-35 dBm nom.)
Mic 1 has a Mic / Line pad switch,
Line = +5 dBm nominal
- Cue Input: 1/4", 50 ohms, 250 mV RMS (-10 dBm nom.)
- Handset: Auxiliary Handset jack, biased for electret microphone type handset.

Outputs:

- Balanced: Male XLR, 200 ohms, 500 mV RMS (+12 dBm Max.)
- Headphone: 1/4" Stereo, 8 ohms, 1/2 watt per channel

Phone Line: RJ-11C, Isolation 1500 VAC

Ringer: 1.2B REN

Handset Interface: RJ-22 PBX Handset Interface biased for Electret, Dynamic, and Carbon handsets.

Keypad: DTMF (Dual Tone Multi Frequency) / Pulse switchable.

Size: 6.5 x 4.6 x 2.2 inch
(16.5 x 11.7 x 5.6 cm)

Weight: 2.5 pounds

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

FCC Registration (continued)

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 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.

Warranty

RemoteMix Sport is covered by a two year warranty to be free from defective workmanship and materials. In the event that the RemoteMix Sport needs repair, you must call us to get an authorization, and then carefully pack and ship it to us. You will pay for shipping to us and we will pay for return back to you, UPS ground. No free repairs will be made if the defect was caused by misuse, weather conditions, or other cause, except for defective workmanship or materials. THERE ARE NO EXPRESSED OR IMPLIED WARRANTIES WHICH EXTEND BEYOND THE WARRANTY HERE MADE.

03/07