

# JK Audio

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## RemoteMix Sport

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

### Users Guide

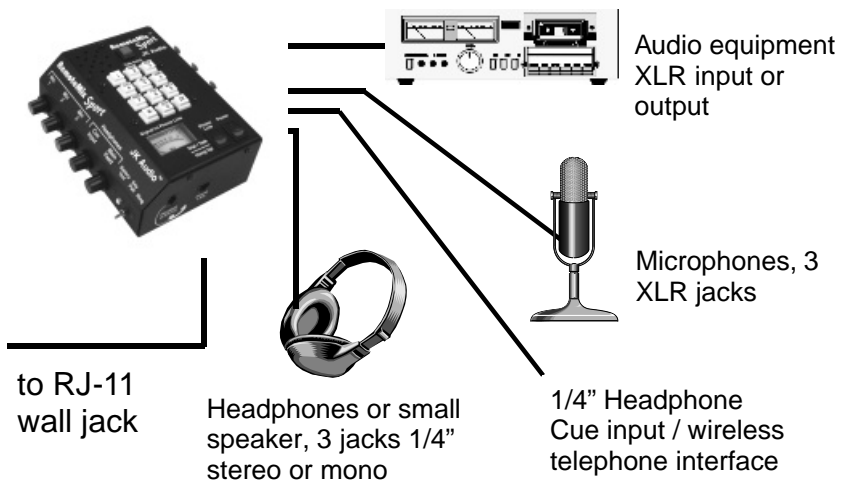


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***Telephone Interface Products***

## Connections

RemoteMix Sport is a professional audio mixer designed to work on any standard analog telephone line or simply unplug the handset on most PBX or digital telephones and connect to the built-in universal handset interface. It can also connect to many cellular telephones using a fax/modem adapter available from your cellular telephone manufacturer. Simply plug your audio equipment into RemoteMix Sport and connect to a phone line. You can now put on 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. This fixed level male XLR output also includes a switch for phone mix or mic mix.



1. Connect your audio equipment, microphones, cue input, and headphones to the input and output jacks on RemoteMix Sport.
2. Connect the jack marked "Phone Line" to any standard analog telephone line,

- Or** connect to the Fax/Modem adapter on a cellular telephone,
  - or** disconnect the handset on the existing telephone and plug the coily cord into the PBX handset interface jack on RemoteMix Sport.
3. Turn on the power switch, flip the "Phone Line" switch to "Dial/Talk", flip to keypad switch to on (if dialing with the RemoteMix Sport keypad) and dial your call. You are now ready to broadcast or record a telephone interview.

### **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 third party headsets and earpiece 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 2.5 mm jack are available for most wireless telephones through local electronic stores or their respective telephone dealers.

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 cellular telephones in conjunction with their proprietary fax / modem adapters. In this instance the fax / modem adapter replaces the wall jack in the picture on page 2.

### Handset Interface

If you cannot get 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. Simply disconnect the 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

### VU Meter

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

### 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.

### 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.

### **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. 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.

### **Ringer**

RemoteMix Sport has a visual ring indicator for incoming calls.

### **1/4" Cue Input**

The RemoteMix Sport includes a 1/4" cue input that feeds only the headphones. This signal does not reach the XLR output.

### **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 phone handset.

### **Phone Line Switch**

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. Keep this switch in the *Hang Up* position if you are using the PBX Handset Interface.

### **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.

### **Keypad ON/OFF**

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

### 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.

### 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. The two battery fixtures are wired in parallel so 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 adapter with the RemoteMix Sport. Using any other adapter will damage the unit.**

## 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 *N u l l 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 signal 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 the set the null to minimum. This presets the null to an average phone line impedance.

## Specifications

### Inputs:

Microphone (3) Female XLR, 1k ohms, -10 mV RMS (-35 dBm nom.) Mic 1 has a Mic / Line pad switch, Line = +5 dBm nominal

Headphone Cue Input: 1/4" 20k 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 (3) 1/4" Stereo, 8 ohms, 1/2 watt per channel

Phone Line: RJ11C, Isolation 1500 VAC

Ringer: 1.2B REN

Handset Interface: 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

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 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 2 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 EXPRESS OR IMPLIED WARRANTIES WHICH EXTEND BEYOND THE WARRANTY HERE MADE.

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**JK Audio Inc.**

2701 N. 45th Road, Sandwich, IL 60548 (815) 786-2929