

## **Radio Magazine**

### **Field Report**

JK Audio RemoteMix 4

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When a radio station sets up for remote broadcasts, at least one friendly passerby (usually the know-it-all type) will inevitably stop and ask, "How are you getting back to the station?" While hybrid and codec technology may be troublesome to explain in layman's terms, the passerby's question is one that motivates radio engineers. "How do we get the audio from here to there?" Today, there are more and more unique ways to do it.

Ma Bell is a longtime friend of radio. She has afforded us equalized and dial-up lines over copper for decades. Even when we try to squeeze out every possible ounce of bandwidth using new-fangled codecs, she keeps us connected. But much to the broadcaster's delight, times are changing, and Ma Bell has made room for "Ma Cell." With the Remote Mix 4, JK Audio has introduced 21st century cell phone and Bluetooth technology to the remote broadcast clique. In this age of wireless-ness, it's a timely introduction.

#### **GETTING ON THE AIR**

The Remote Mix 4 is a four-channel field mixer combined with a telephone hybrid. Setup of the unit is quick and easy, which is especially attractive to sportscasters. The Remote Mix 4 footprint is compact (taking up minimal space on press row), and the front-panel controls are straightforward and easy to use. The unit is powered by a 9Vdc wall wart power supply, or two 9V batteries, which can last as long as 10 hours. When the batteries are used in conjunction with Bluetooth, the Remote Mix 4 can be completely wireless. The inputs and outputs on the back panel are clearly labeled.

The Remote Mix 4 is designed with sportscasters in mind, who usually wear headsets. Each microphone adjustment is adjacent to its corresponding headphone adjustment. Gain controls for each microphone input allow for trimming the microphone levels, and each headphone has a control for adjusting volumes independently. A red clip indicator LED is present on each microphone channel. The four headphone controls each have their own toggle switches that route either the program mix, or the phone return feed to the headsets. If for example the play-by-play announcer is the only one who needs to hear the station break, he can switch his headset to return. The other three headsets, if switched to mix, will only hear the microphone channels. When a headphone is switched to return, some of the microphone mix can still be heard as well.

A master level control is situated under an LED meter that indicates program output between -30dB and +3dB. A cue level control adjusts the input level from an external audio source, such as a radio receiver, or a wireless interface, such as a cell phone. The cue feeds the headphones. Also on the front are the Bluetooth (more later) and the bass boost switches. Bass boost adds more lows to the program mix before sending the audio to the phone hybrid. A standard DTMF keypad and redial button are situated on the front panel, along with a hang up, dial/talk switch that seizes the phone line when making or receiving a phone call. A small red LED flashes to indicate an incoming call. The power switch for the Remote Mix 4 is on the front panel as well.

## ON THE BACK

The back panel of the Remote Mix 4 is home to the program master output XLR plus a 3.5mm phone jack. The balanced XLR can feed a house PA or IFB system. The 3.5mm phone jack (TRS) carries the program mix on the left, and either of the receive or cue mixes on the right. This is handy for connecting to a small portable recording device. An RJ-11 jack accepts a standard phone line for typical landline usage. A switchable universal handset interface allows for the connection of the Remote Mix 4 to the coiled handset cable on a telephone where analog phone lines are not available. The Remote Mix 4 essentially becomes the earpiece and mouthpiece of the telephone.

A 1/4" jack is selectable between either an external cue input (from a radio receiver, for example) or the wireless phone interface. When using the supplied 2.5mm to 1/4" cable, a cell phone with a 2.5mm headset jack can be plugged into the Remote Mix 4 in place of a standard phone line. The other party is heard through the returns on the headphones. The Remote Mix 4 becomes the headset of the connected cell phone, and the user is no longer tethered to a landline connection.

The four microphone and headphone jacks are on the back panel as well. A switch on each microphone input provides individual phantom power. Inputs three and four are switchable between microphone and line inputs. Input 4 is equipped with a stereo 3.5mm input jack, where the stereo signal is summed to mono (perfect for the output of a laptop).

## THE BIG NEWS

Finally, the really exciting Bluetooth feature is explained! The Bluetooth feature works much like the wireless cell phone interface, but eliminates the need for extra cables when using a Bluetooth-enabled cell phone. To do this, first select the option on the Bluetooth device to set up a connection. Then hold the Bluetooth button on the Remote Mix 4 for five seconds. The Remote Mix 4 will locate any available Bluetooth-enabled devices within range. In order to connect to a Bluetooth device the first time, the device must be in pairing mode. Once the connection is established, the Remote Mix 4 will become a Bluetooth device on the cell phone. Bluetooth connectivity offers 20kHz bandwidth. With the Bluetooth

technology available, less and less wiring and cabling are needed when using the Remote Mix 4 in the field.

The Remote Mix 4 is compact, simple and hands free — three terms that describe today's technology trends. JK Audio has kept up with the times and when the radio station staff needs to set up in the field quickly and easily, the Remote Mix 4 is keeping up in our wireless and hands-free world. Hopefully, Ma Bell doesn't mind sparing some airtime for all of these new wireless innovations!

### **Performance at a glance**

Bluetooth technology

Interface with standard cell phone

True telephone hybrid

Bass boost for warmer sound

9V battery operation

48V phantom power on each channel

Small and compact

Cue Input for monitoring external audio source

Quick and easy setup

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Editor's note: Field Reports are an exclusive Radio magazine feature for radio broadcasters. Each report is prepared by well-qualified staff at a radio station, production facility or consulting company.

These reports are performed by the industry, for the industry. Manufacturer support is limited to providing loan equipment and to aiding the author if requested.

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