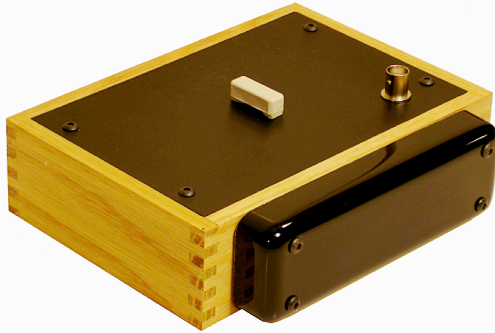


INSTRUCTION MANUAL
MODEL SC-186Kx2
INFRARED AUDIO TRANSMITTER



498 Long Hill Road
Gillette, NJ 07933 USA
908-647-2650
fax: 908-647-2651
toll free: 877-896-5084
email: sndchoice@aol.com
website: www.assistivelistening.net

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INTRODUCTION:

The SC-186Kx2 is a portable, wireless, infrared assistive listening transmitter. It is designed for use with amplified infrared headset receivers in a variety of situations. The transmitter and headset combination can provide high quality assistive audio coverage for government, corporate or institutional settings in small to medium-size rooms. Coverage from small conference rooms through audiences of over one hundred seats can be achieved with a minimum of setup time or complications. This system provides an effective and inexpensive way to provide a needed service and to bring numerous locations into compliance with the Americans With Disabilities Act (ADA).

The self-contained pressure zone microphone, sound equalization circuits, automatic level control and advanced technology high-power infrared light emitting diode (LED) emitters provide a complete transmitter system in a paper-back book-size finished wood box. Available accessories include a 360° omnidirectional emitter-microphone box (SC-MEB) and a remote control mute switch (SC-RMS). Industry standard 880 nm secure optical transmissions are on paired 2.3 mHz and 2.8 mHz frequency modulated carrier infrared frequencies and can be received by headsets available from Sound Choice.

The special feature of the SC-186Kx2 is that while the two channels transmit the same audio signal most of the time, one channel transmitting at 2.3 mHz can be muted in order to produce private sidebar or other conversations that can-

not be heard by listeners wearing headsets. The other channel transmitting on 2.8 mHz will always remain on so that listeners entitled to hear private communications can continue to do so unmuted.

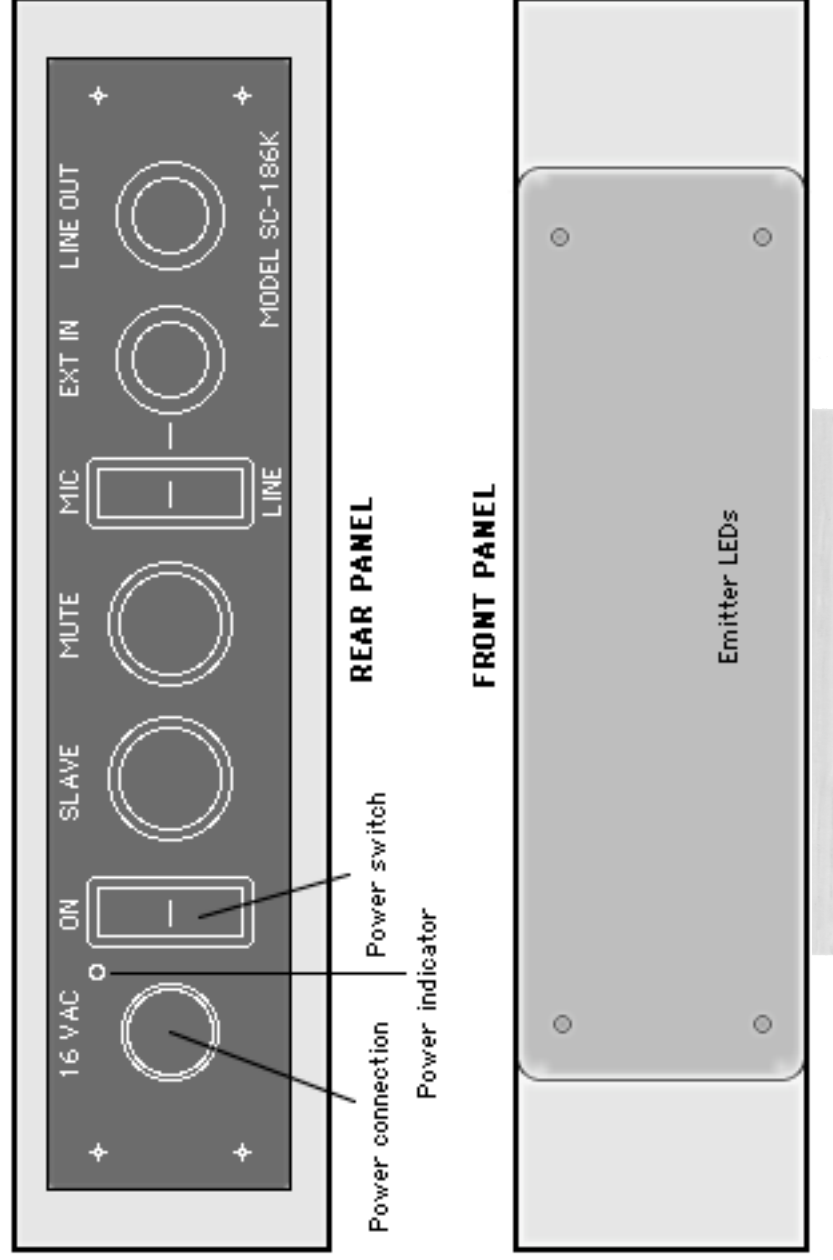
A typical situation would be in court where it would not be permissible for a juror to hear certain private discussions during the proceedings. A judge or clerk could electively mute the transmission of the assistive listening signal during those exchanges. At the same time, a defendant would have the right to hear the conversation even if not physically at the bench. The second channel would continue to transmit even when the juror's channel is muted.

INSTRUCTIONS FOR BASIC SETUP:

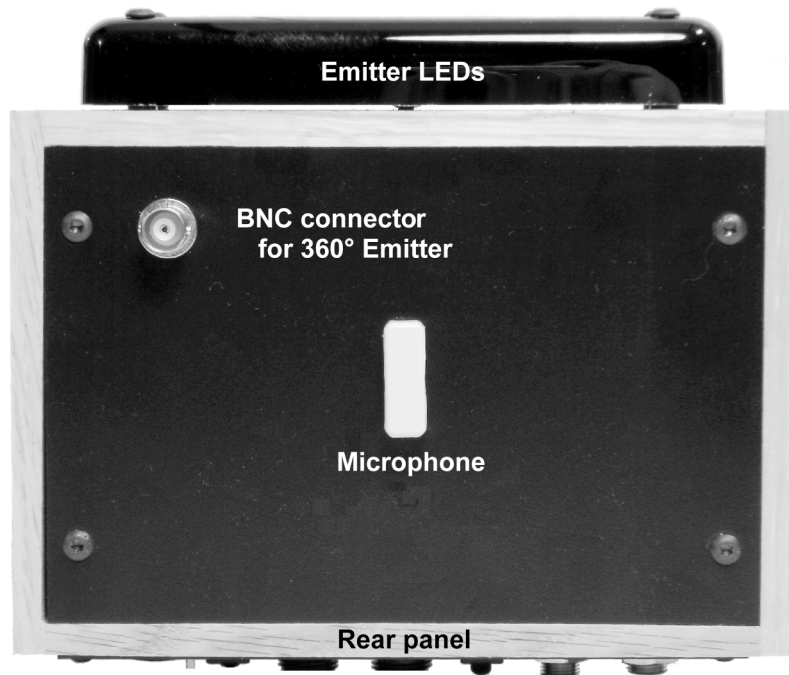
1. Unpack the transmitter, power transformer, 360° microphone-emitter box (SC-MEB if ordered), remote mute control and cable (SC-RMS if ordered), 360° emitter disk (SC-360 if ordered), and at least one headset receiver. Please see the instructions packed with the headset concerning its setup and use.
2. Plug the transformer's small barrel plug into the power jack labeled "16 VAC" located next to the power switch on the transmitter's rear panel. Plug the other end into any 120 volt AC outlet. A common AC extension cord may be used if needed.
3. Turn the power switch to the "on" position. The yellow "power on" indicator LED will light.
4. While wearing a headset with a charged battery and its volume control set to a pleasing level, stand in front of the transmitter and face the infrared emitter (the front panel with the LED emitters). Room sounds picked up by the transmitter's internal microphone should be heard clearly. There is nothing else to set or adjust on the transmitter since all volume level settings are automatic. The volume control is on the receiver.

Infrared audio light will be projected forward from the emitter the way a floodlight or headlight beam illuminates an area in front of it, while leaving areas to the sides and behind darker.





SC-186Kx2 TOP VIEW



note: The BNC connector on the upper left of the top plate is an option. Your system might not have this option included.

MICROPHONE-EMITTER BOX (SC-MEB):

5. Attach the end of the SC-MEB's DIN plug to the DIN jack on the back panel labeled "SLAVE". A small red indicator inside the box will be visible through one side of the red translucent box.

6. The SC-MEB also has a microphone on the top surface. This will act as a second audio pickup point when plugged into the main unit. The two microphones will behave exactly the same regarding muting and using external audio connections (please see "Using Other Input Sources")

In addition to the long forward throw of infrared light from the main transmitter beam, the 360° emitters projecting through all four side walls of the SC-MEB will illuminate areas to the sides and back of the transmitter like a table lamp.



REMOTE MUTE CONTROL (SC-RMS):

7. Connect the small 3.5 mm stereo plug to the jack on the remote control box.
8. Connect the mini DIN plug to the jack labeled "MUTE" on the transmitter's rear panel.
9. When connected properly, a small indicator LED will light on the control box's top surface whenever the transmitter power is on.
10. To mute the audio signal from the transmitter in order to insure privacy during side bar or other confidential conversations, push the "MUTE" switch on the remote control box. The LED indicator will begin to blink as a reminder that the transmitter is muted. The LED will continue flashing until the pushbutton switch is pressed again releasing the mute and restoring the audio signal.

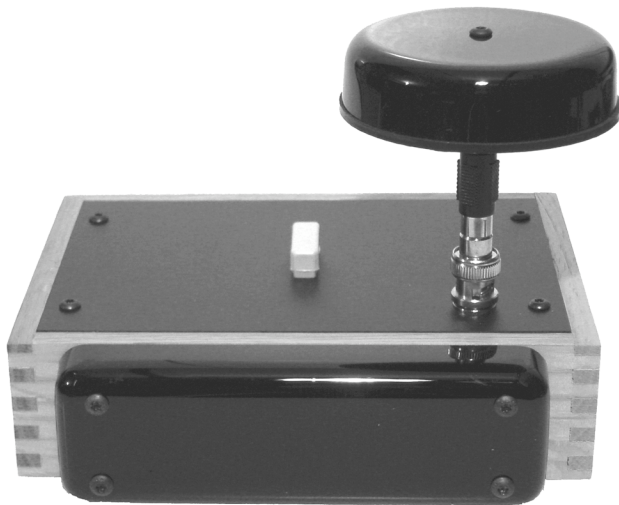


OMNIDIRECTIONAL 360° EMITTER (SC-360):

11. Attach one end of the stalk's RCA phono plug to the emitter disk's matching RCA jack. The other RCA plug end should be plugged into the RCA to BNC adaptor. (Only SC-186Kx2 units ordered with this option will have the BNC connector).

12. Attach the BNC plug on the other end of the adaptor stalk to the matching BNC connector on the transmitter's top plate. Line the plug's two side slots over the jack's protruding bumps and gently push down; then turn the BNC plug's knurled ring clockwise until the connectors snap together. (To remove: push down slightly and turn the BNC plug's knurled ring counter-clockwise; pull the adaptor straight up and off.)

In addition to the long forward throw of infrared light from the main beam, the 360° emitter's infrared light will illuminate areas to the sides and back of the transmitter like a table lamp.



USING ANOTHER INPUT SOURCE:

Although the internal pressure zone microphone is one of the best ways to pick up sounds within a room when no other microphones are available, or when a single speaker is positioned near the transmitter, there are situations where other solutions are possible. Following are some examples of alternative input sources:

To use a different microphone with the transmitter instead of the internal microphone:

1. Plug the alternate microphone into the EXTERNAL INPUT jack. The microphone cable must have a 1/4 inch/6.5 mm phone plug and be an unbalanced line. Most dynamic microphones and self-powered electret condenser microphones will work fine. There is no phantom power for the mic available at the jack.
2. Move the selector switch next to the EXTERNAL INPUT jack to the "MIC" position. Leaving the switch in the wrong position won't damage the transmitter, but the input will be so attenuated that it will be nearly impossible to hear anything.

As soon as the external microphone is plugged in, the internal microphone is automatically disabled. The EXTERNAL INPUT MIC-LINE switch can be left in either position when the internal microphone is used. The switch has no effect if there is nothing is plugged into the EXTERNAL INPUT jack.

To transmit a line level output from a microphone mixer, audio or video recorder output, or other similar device:

1. Plug the direct line into the EXTERNAL INPUT jack. The cable must have a 1/4 inch/6.5 mm phone plug and be an unbalanced line. Levels ranging from -10 dB through +4 dB can be accepted. This covers most commonly encountered devices.

2. Move the selector switch next to the EXTERNAL INPUT jack to the "LINE" position. Leaving the switch in the wrong position won't damage the transmitter, but the sound will be overloaded and distorted.

As soon as the external line source is plugged in, the internal microphone is automatically disabled. The EXTERNAL INPUT MIC-LINE switch can be left in either position when the internal microphone is used. The switch has no effect if there is nothing is plugged into the EXTERNAL INPUT jack.

USING THE OUTPUT JACK:

Whatever sound is being sent from the infrared emitter, whether it is picked up by the internal microphone or from an external mic or line source, that sound is available at the output jack. Though this feature is not directly a part of the infrared transmitting system, it provides a convenient way to record the proceedings, or feed a sound reinforcement system. The level of the output will depend somewhat on the nature of the sound being picked up, but the output jack will drive most low impedance line inputs at levels of -10 dB, and with a little gain boost, +4 dB inputs. The output is an unbalanced 1/4 inch/6.5 mm phone plug.

PLACEMENT:

In a lecture hall or standard audience seating situation the infrared light will be emitted from the front panel light emitting diodes. The invisible infrared light can be thought of as coming from a point at the emitter array and spreading outwards as a cone of approximately 120° somewhat like a wide-angle flashlight or headlight beam. Placement on a lectern or table should be made so that the direct beam "washes" over as much of the audience as possible. Ideally the transmitter should be somewhat above and facing the audience. The added height permits listeners further back to have a less obstructed line-of-sight connection to the transmitter without being blocked by people in seats ahead of them. In practice, the stage in a lecture hall or

small auditorium will provide the needed height. In a hotel meeting room or other similar location, the infrared light is likely to bounce off of a low ceiling and still reach the listeners' headsets. The central lobe of the main beam will provide a direct signal at least 50 to 75 feet back, and about 25 to 35 feet to the sides at 60° off center. Depending on the reflective qualities of the room, these figures can be even better.

When the listeners are seated in-the-round such as around a conference table in hearing rooms or in a court of law, the 360° omnidirectional emitter provides additional coverage to the sides and behind the transmitter. In a conference the transmitter should be placed in the middle of a conference table which places the 18 small emitters in a horizontal plane above any surface clutter on the table. It should be noted that the main transmitter beam is still transmitting. If it can be aimed at a light colored wall or curtains, its reflected backscatter will provide better fill. The 360° omnidirectional emitter will transmit in a circular pattern with the best signal in a 15 to 20 foot radius (a 30 to 40 foot diameter). In actual use better ranges can often be achieved, especially if the front throwing main emitter is aimed for its best effect.

For courtroom use the internal microphone is capable of providing good acoustical pickup of the trial participants with a minimum of setup time and fuss. However in courtrooms that are already equipped with sophisticated microphone systems for public address and/or transcription recording sometimes better intelligibility might be achieved if the assistive listening transmitter is fed from the existing microphone mixer. Please see the section on **Using Another Input Source** for additional details. The Remote Mute Control is used to silence the audio signal from the transmitter in order to insure privacy during side bar or other confidential conversations. Please see the section on **The Remote Mute Control** for additional details.

TECHNICAL SPECIFICATIONS: MODEL SC-186Kx2

- Microphone: Sound Choice design pressure zone electret (standard) or Crown® PZM-11 capsule (special order).
- Preamplifier: Low-noise BiFET circuitry with automatic gain control and peak limiting
- 1/4" Input Jack switchable for mic or line levels (unbalanced)
- 1/4" Line Output Jack (unbalanced)
- Optional BNC Connector available for 360 degree Emitter Disk
- MiniDIN Connectors for optional Remote Mute Switch and Slave Transmitter
- Equalization: Low end rolloff below 150 Hz; 50 microsecond pre-emphasis
- Infrared transmission: 880 nm, IEC 764 Standard 2.3 mHz, 2.8 mHz FM optical carrier Optical output: main IR beam array greater than 450 mW; approximately 120 degree beam dispersion
- AC Power requirements: 125 volts AC to 16 volts AC, 1 Amp UL/ CSA approved wall block transformer (included)
- Dimensions: 6 1/2" x 5" x 1 3/4" (16.5 cm x 12.7 cm x 4.5 cm); 1.4 lbs. (0.63 kg)

PZM® is a registered trademark of Crown International, Elkhart, Indiana.

MISCELLANEOUS NOTES:

- Under typical operating conditions, the front plastic emitter cover of this transmitter may become slightly warm to the touch. This is normal and poses no hazard or fire risk.
- The black plastic top plate is constructed of a material known as foam PVC. It provides superior acoustic qualities for the microphone mounted on its surface. This material is somewhat uneven in its appearance and may exhibit some cosmetic irregularities. This is normal and expected.
- The transmitter should never be immersed in water, but the exposed plastic, metal and wood surfaces may be cleaned with a lightly dampened cloth. Solvents should not be used as cleaning agents.

Limited Warranty

SOUND CHOICE warrants this product to the original purchaser, against defects in material or workmanship as follows:

WARRANTY PERIOD:

Sound Choice products are warranted for the period of **THREE YEARS** from the date of original purchase. Sound Choice will, at its option, repair the defective product at no cost to you, or replace the defective product with new or remanufactured functionally equivalent product of equal value.

In addition, Sound Choice will supply labor and new or rebuilt replacements for defective parts for a period of **THREE YEARS** from the date of original purchase.

HOW TO OBTAIN SERVICE:

To obtain warranty servicing during the above described period, contact Sound Choice at (908) 647-2650 or sndchoice@aol.com.

WHAT YOU MUST DO:

The unit must be shipped, freight prepaid, or delivered to Sound Choice to render warranty service. The unit must be packaged in such a way as to reasonably protect it from possible shipping damage. Proof of purchase in the form of the retailer's bill of sale or invoice must be confirmed before return with a detailed description of the problem.

WHAT WE WILL NOT COVER:

This warranty will not apply if the unit has been previously altered, repaired, or serviced by anyone other than a service center authorized by Sound Choice; the serial number of the unit has been altered or removed; the unit has been subject to accident, misuse, abuse or operated contrary to the instructions contained in the accompanying manual.

EXCEPT TO THE EXTENT PROHIBITED BY LAW, THIS SHALL BE THE EXCLUSIVE WRITTEN WARRANTY OF THE ORIGINAL PURCHASER AND NEITHER THIS WARRANTY NOR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING A WARRANTY OF MERCHANTABILITY, SHALL EXTEND BEYOND SAID PERIOD. SOUND CHOICE SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, DIRECT OR CONSEQUENTIAL, ARISING OUT OF, OR INABILITY TO USE THIS PRODUCT.