



SRA 1



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1 Description

1.1 Introduction Thank you for purchasing a product from AKG. This Manual contains important information on setting up and operating the equipment. Please take a few minutes to read the instructions below carefully **before operating the equipment**. Please keep the manual for future reference. Have fun and remember that AKG equipment has been designed to support your creativity!

1.2 Operating Principle The SRA 1 is a remote UHF antenna with a hypercardioid polar pattern. You can use the SRA 1 either as a transmitting antenna with the IVM 1 In-ear Monitor System or as a receiving antenna with the WMS 81 and WMS 300 wireless microphone systems from AKG. The SRA 1 will even operate perfectly as close to the floor or ceiling as 15 cm (6 in.). Note that the SRA 1 will NOT function with VHF wireless systems.



Fig. 1: Front view



Fig. 2: Rear view

Important Note: The specific design of the antenna provides a maximum on-axis gain of approximately 6 dB which is equivalent to four times the transmitter radiated power. If you use the SRA 1 in **transmitting mode, check that the total radiated power of your system will not exceed the maximum level permitted at the location where you use the system.**

1.3 Frequency Range Selector and Connector



Fig. 3: Frequency Range Selector

A slide switch on the inside of the rear disk of the antenna lets you match the antenna to the frequency range of the transmitter or receiver with which you use the antenna.

The Frequency Range Selector provides two positions:

1 Description



Right: 680 to 820 MHz (factory preset)
Left: 820 to 945 MHz

The antenna provides a BNC connector on the inside of the front disk for connecting a BNC antenna cable (optional).



The antenna has a hypercardioid polar pattern that points 5° to 20° up, depending on the antenna's distance from the floor, wall, or ceiling. The polar pattern is identical in transmitting and receiving modes and increases the "reach" of the antenna. The main lobe of the hypercardioid pattern is located in front of the front disk.

1.4 Polar Pattern

Fig. 4: Hypercardioid polar pattern.



SA 40 stand adapter for mounting the antenna on a microphone stand with a 3/8" or 5/8" thread.

1.5 Standard Accessories



Ferrite core for fixing on the antenna cable.



MK A 5, MK A 10, MK A 20 antenna cables (RG 58)
(Note: To connect the antenna to the transmitter of the IVM 1 In-ear Monitor System, use the MK A 5 only.)

1.6 Optional Accessories



2 Setting Up and Connecting

Note: The following hints on setting up and aligning the antenna (sections 2.1 and 2.2) apply to both transmitting and receiving modes.

2.1 Setting Up

1. Check that the **carrier frequency range** of your transmitter(s) or receiver(s) **matches** the frequency range set on the antenna. If it does not, set the Frequency Range Selector on the antenna to its alternative position.
2. Use the supplied SA 40 stand adapter to mount the antenna on a microphone stand making sure that the connector points straight down.
3. Place the antenna at least 10 cm (4 in.) in front of and at a minimum lateral distance of 50 cm (20 in.) from any walls or other plane surfaces, metal grids, or metal scaffolding as shown in fig. 5.
4. Referring to figs. 6 and 7, make sure the antenna will be at least 15 cm (6 in.) above the floor or 50 cm (20 in.) from the ceiling (or 15 cm (6 in.) if you route the cable to the antenna from above).
5. If you set up two SRA 1 antennas side by side (e.g., for diversity reception), check that the two antennas are spaced at least 20 cm (8 in.) apart (see fig. 8).

Mounting the antenna on the ceiling:

Important:

6. If the ceiling is high enough you can cover the entire performance area by mounting a single antenna on the ceiling and pointing it down.
Make sure to fix the antenna at least 10 cm (4 in.) below the ceiling (see fig. 5).
Use suspension fixtures made of **insulating materials** only.

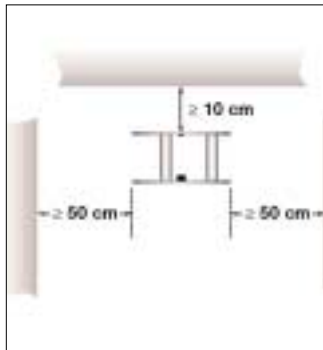


Fig. 5: Minimum distances from plane surfaces.

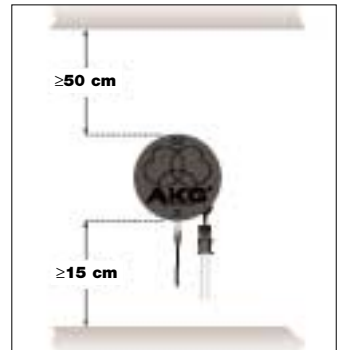


Fig. 6: Minimum distances from floor and ceiling.

2 Setting Up and Connecting

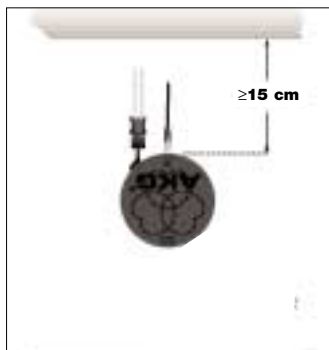


Fig. 7: Minimum distance from the ceiling.



Fig. 8: Minimum distance between two antennas.



Fig. 9: Antenna polar pattern.

1. Aim the antenna like a spotlight at the center of the performance area (stage).
2. Due to the design of the antenna, the main axis of its transmitting or receiving pattern points 5° to 20° up. Therefore, aim the antenna 5° to 20° lower than the direct line of sight to the performance area (see fig. 9).

2.2 Aligning the Antenna

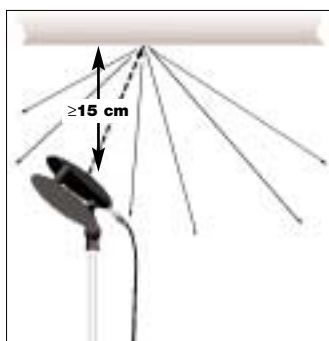


Fig. 10: “Indirect” radiation/reception.

You may also use the SRA 1 directional antenna in small rooms or on small stages where the antenna will be less than 10 m (33 ft.) away from the performance area.

Referring to fig. 10, aim the antenna at the ceiling (similar to indirect lighting). The ceiling will act as a reflector and distribute the directional signal throughout the room.

In receiving mode, the antenna will receive signal even from spots within the performance

2.2.1 Aligning the Antenna in Small Rooms



2 Setting Up and Connecting

area that would otherwise be outside the antenna's receiving angle.

2.3 Connecting the Antenna

The SRA 1 directional antenna uses no active circuitry and therefore requires no power supply. However, its circuitry has been designed to “neutralize” supply voltages so you can connect the SRA 1 even to an antenna input or output that provides a supply voltage for a booster (e.g., PS 81).

Important!

To connect the antenna to the **SST 1 transmitter** of the IVM 1 In-ear Monitor System, **use the optional MK A 5 antenna cable only**. Longer cables have a higher attenuation that would reduce the radiated power considerably.

1. Use an antenna cable with BNC connectors. (Refer to section 1.6 Optional Accessories.)

Important!

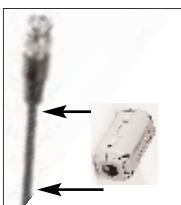


Fig. 11: Position of the ferrite core on the cable.

Fix the supplied ferrite core to the cable immediately behind one of the two connectors (see fig. 11).

The ferrite core keeps the antenna's polar pattern symmetrical and prevents intermodulation when using several antennas at the same time.

2. Plug the connector behind which you fixed the ferrite core into the BNC connector on the front disk of the antenna.

Important!

Make sure that at least the first 20 cm (8 in., equivalent to the antenna diameter) of the antenna cable will hang down vertically (refer to fig. 1). Otherwise the antenna's polar pattern would change.

Transmitting Mode:

- 3a. Connect the other end of the antenna cable to the antenna output of the SST 1 transmitter. Refer to the instruction manual of the IVM 1 In-ear Monitor System.

Receiving Mode:

- 3b. Connect the other end of the antenna cable to the antenna input of your receiver or Power Splitter. You can connect the antenna to the following UHF equipment: SR 300 and SR 81 receivers, PS 81 Power Splitter. Refer to the instruction manual of the appropriate equipment.

3 Specifications



Gain:	5.6 dB typ. (760 MHz)
Front-to-back ratio (180°):	13 dB min.
Off-axis attenuation (90° to 110°):	approx. 25 dB
Coverage angle:	70°
Frequency range (6 dB):	680 to 945 MHz
Size:	diameter: 152 mm (5.98 in.) depth: 65 mm (2.5 in.)
Net/shipping weight:	180g/470 g (6.4/16.6 oz.)

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SRA 1



WMS 81



WMS 300



IVM 1

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