



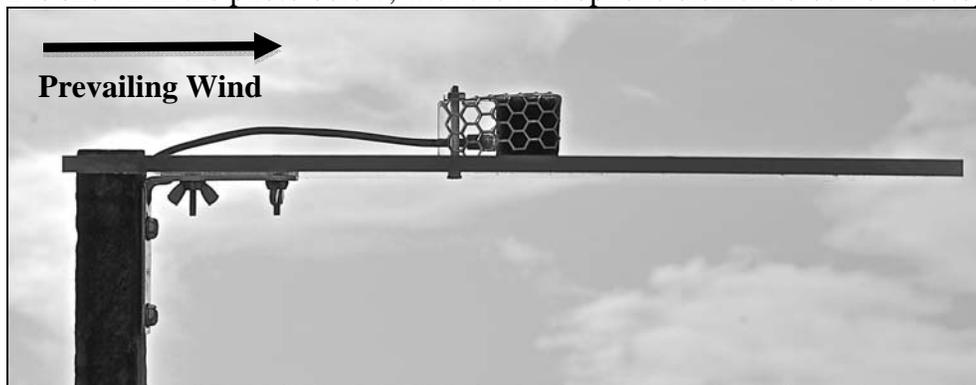
SMX-NFC Night Flight Call Microphone

The SMX-NFC microphone is designed especially for recording distant night flight calls in the sky while attenuating sounds from the ground such as insects and amphibians. The SMX-NFC has a microphone capsule mounted near the surface of a flat horizontal plate creating a pressure zone for sounds originating from above the plate, resulting in an effective gain of 3 - 6dB of signal gain within a beam angle of 125 degrees, while attenuating sounds below the plate. This allows up to a 10dB signal-to-noise improvement over a non-directional microphone. The design delivers a relatively flat frequency response from 2 to 12kHz. The microphone is fully weather resistant and includes a 10m cable and a mounting L bracket to allow a wide range of mounting options.

Mounting instructions:

Attach the included L bracket facing either up or down to attach to a post or flat vertical surface. If installing on a flat horizontal surface such as a flat rooftop, simply lay the plate on the surface. In windy environments it is prudent to either screw to the rooftop using the holes from the L bracket or use the L bracket to mount to a vertical structure.

Correct orientation is shown in the photo below, with the microphone element block on the top.



The SMX-NFC microphone is fully weather resistant so rain will not damage the microphone element. The foam under the hexagonal mesh offers some level of protection from wind noise but it is best practice to face the foam of the microphone element block away from prevailing wind to lessen wind noise. Also, in the horizontal plane, the microphone is slightly more sensitive to the foam side of the microphone so it is best that this be pointed away from mechanical and road noise sources. The direction the microphone is faced will not have a significant effect on the sensitivity to sounds above the plate.

The microphone should be placed as far as possible from insects. Depending on the insects in your environment, this could mean distancing the microphone from trees or from the ground by mounting it on a long stake.

Settings:

The 2.5V bias must be on for the SMX-NFC microphone; this is set with the physical switches or jumpers on the SM2 or SM2+ unit.

Recommended gain setting is between 48dB and 60db depending on your ambient noise. It is best to determine optimum gain empirically and it is best to err on the low side to avoid clipping the recording.

The jumper high pass filters should be set for 180Hz or 1000Hz. 1000Hz will provide better filtering of anthropogenic and wind noise at the expense of some attenuation of very low frequency vocalizations of larger birds such as heron.

(See the main SM2 or SM2+manual for further details on configuring these settings.)

Maintenance:

Each microphone ships with 6 spare foam windscreen blocks. The foam will eventually break down from UV exposure and should be replaced for each field season to assure that the microphone element is protected from rain. To replace simply remove the two bolted screws that attach the hexagonal screen. You can use a small Phillips screwdriver and a 5/16" wrench. Do not over tighten the nuts when reassembling, as this could damage the acrylic block that houses the microphone element.