

# Measuring Microphones, Studio Microphones, Hydrophones and Accessory Equipment

UA 0570

## Windscreen

### FEATURES:

- All weather operation
- Wind noise attenuation better than 15 dB for wind speeds up to 120 km/hour
- Minimal influence on frequency and directional characteristics
- Stainless-steel anti-bird spikes
- Influence of wet screen less than 0,5 dB up to 9 kHz

### USES:

- In permanent outdoor microphone installations
- Noise measurement in humid and corrosive atmospheres

The Windscreen UA 0570 is designed for permanent outdoor noise monitoring installations using 1/2" microphones. It is made from a specially prepared porous polyurethane foam which is able to withstand humid and corrosive atmospheres. Three stainless-steel rods support the foam screen and protrude as spikes above its top to prevent interference from birds.

The functional design of the foam screen plus its steel frame without any welded parts, provides excellent long term mechanical stability. As can be seen in Fig.1 the conical shaped hollow gives the foam screen a thicker cross section at its

top. This improves protection against rain and at the same time increases the ability of the screen to attenuate wind noise.

As shown in Fig.1 a 1/2" microphone and preamplifier can be inserted into a conical ring made of hard plastic (P.O.M.) at the base of the windscreen and secured with a nylon screw.

A specially developed Rain Cover (UA 0393) indicated in Fig.1 with built-in electrostatic actuator allowing remote controlled calibration of the measurement system is screwed on the top of the microphone for increased protection against rain. The Dehumidifier UA

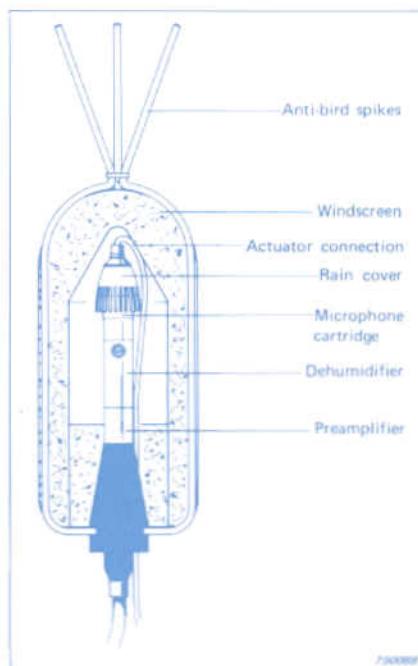


Fig.1. 1/2" Microphone and Preamplifier fitted with Rain Cover UA 0393 and Dehumidifier UA 0308, mounted inside the Windscreen UA 0570



Fig.2. The Outdoor Microphone Unit Type 4921

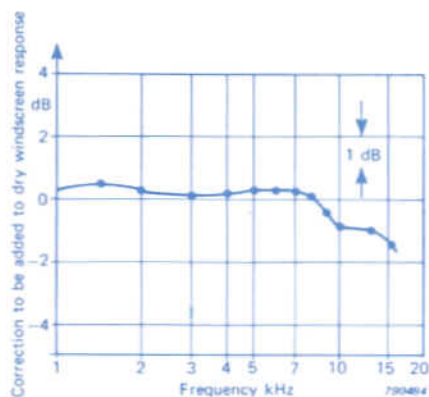


Fig. 3. Effect of wet screen on the attenuation caused by Windscreen UA 0570

0308 is used to protect the microphone against humidity and to extend the length of the entire assembly for correct positioning of the microphone.

#### Outdoor Microphone Unit Type 4921

The Windscreen UA 0570 is also part of the Outdoor Microphone Unit Type 4921. This is shown in Fig. 2, and is intended for permanent noise monitoring systems. The Unit consists of the quartz coated 1/2" Condenser Microphone Type 4149, the Rain Cover UA 0393, the Windscreen UA 0570 and a Pre-amplifier mounted on a weather proof case which houses an amplifier, a calibration oscillator, a dehumidifier for the microphone air equalization system, and a battery pack.

#### Wind noise attenuation

The Windscreen UA 0570 gives an effective reduction of wind noise of the order of 15 dB or more for wind speeds up to 120 km/hour.

#### Influence of wet screen

The attenuation caused by a wet

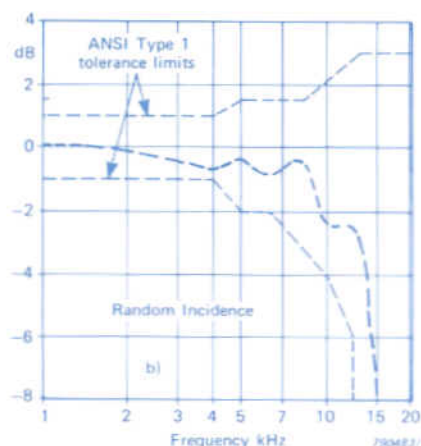
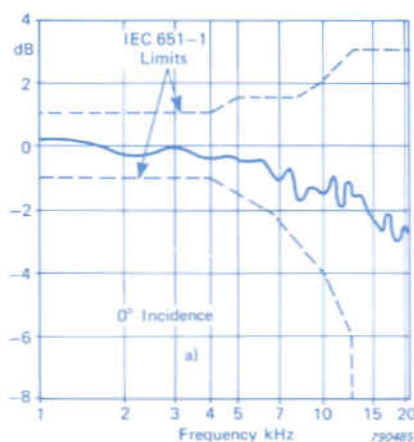


Fig. 4. Typical frequency response of the combination shown in Fig. 1 with  
a) Free field Microphone Type 4149, 0° Incidence  
b) Pressure Microphone Type 4166, Random Incidence (Calculated)



Fig. 5. Directional characteristics of the combination shown in Fig. 1 (Microphone Type 4149)

screen on the frequency response differs only by  $\pm 0.5$  dB up to 9 kHz from the attenuation caused by a dry screen. See Fig. 3.

#### Frequency response

The influence of Windscreen UA 0570 and Rain Cover UA 0393 on the frequency response of the free field Microphone Type 4149 and the pressure Microphone Type 4166 is shown in Figs. 4a and 4b respectively. Type 4149 is recommended for outdoor use. The combination shown in Fig. 1 with Type 4149 fulfils IEC 651 Type 1, but

for conformity to ANSI Type 1 Standard, compensation in the high frequency region should be made, otherwise Type 4166 should be used instead of Type 4149. Moreover, Types 4165 and 4166 which have a high sensitivity (50 mV/Pa) can be used for low level measurements.

#### Directional characteristics

The directional characteristics of the combination shown in Fig. 1 with Microphone Type 4149 are shown in Fig. 5.

## Specifications UA 0570

<p><b>Frequency Response:</b> Conform to IEC 651-1 (0° Incidence) Microphone Type 4149 + Rain Cover UA 0393 + Dehumidifier UA 0308 + Windscreen UA 0570: 5 Hz to 18 kHz +1 dB -3 dB In accordance with ANSI S1.4-1971 Type 1 (Random Incidence) Microphone Type 4166 + UA 0393 + UA 0308 + UA 0570</p>	<p><b>Wind noise attenuation:</b> More than 15 dB up to wind speed of 120 km/hour</p> <p><b>Effect of wet screen:</b> Within <math>\pm 0.5</math> dB up to 9 kHz compared to dry screen</p> <p><b>Directional characteristics:</b> In accordance with IEC 651-1. See Fig. 5.</p>	<p><b>Temperature Range:</b> -25°C to 70°C (-13° to 158°F)</p> <p><b>Overall Dimensions:</b> Height: 233 mm (9.17 in) Diameter: 68 mm (2.67 in)</p> <p><b>Weight:</b> 70 g (0.154 lb)</p>
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