

# THROUGH-WALL AUDIO & TACTICAL SURVEILLANCE WITH THE **FOS** FIBRE OPTICAL STETHOSCOPE



**Winkelmann has offered the FOS (Fiber Optical Stethoscope) for several years, which is completely undetectable and is offered in a Stereo or a Mono version.**

“Stethoscopes” are used in surveillance applications for listening through walls, doors, windows or other obstacles. The FOS is ideal for permanent installations in structures and walls, due to its light weight and waterproof design.

Optical technology used by Winkelmann produces maximal intelligibility when listening through structures, which is achieved by high SNR and optimal frequency response.

The FOS consists of an acoustic sensor head and a remote electro-optic unit which are connected via fiber optic cable. All components of the pickup head and the fiber are made of plastic and glass, making it ideal for complete covert operation where the electro-optic unit can be positioned far away from the sensor (up to 1 km).

## » TECHNICAL SPECIFICATIONS

Intelligibility through concrete wall thickness	Up to 50cm
Frequency Response ( $\pm 10$ dB)	200-5000Hz
Line-out sensitivity (@1 mg)	> 10mV rms
Gain control range	> 45dB
Self noise (RMS)	< 50 $\mu$ g rms
Self noise density (200-5000 Hz)	< 150 nano-g/sqrt(Hz)
Supply voltage	9-15VDC or 4x1.5VAA (Stereo)
Power consumption	< 0.8W
Output impedance (standard line output)	< 100 W
Amplitude Non-linearity	< 5%
Transverse sensitivity	<5%
Operating Temperature Range [C/F]	-20°C to +60° C (-4°F to +140°F)
Cable Length	Standard 5m (16.4ft)
Dimensions, FOS Head	H: 20mm (0.78") D: 35mm (1.38") W: 16g (0.56 oz)
Dimensions Stereo Electronics Box	17.3(L) x 9(W) x 2.7(H) cm
Weight Stereo Electronics	330grams (w/out batteries) 430grams (incl. batteries)

### Product Codes

- 3-299-643 SS060 FOS-MB Mono Fiber Optical Stethoscope System, with 5 meters of 2x3mm zipcord optical fiber, pre-amp electronics box, headset with gain control & carrying case
- 3-299-644 SS060 FOS-SB Stereo Fiber Optical Stethoscope System, with 2x5 meters of 2x3mm zipcord optical fiber, pre-amp electronics box, headset with gain control & carrying case

## » FEATURES

- Stereo FOS improves target intelligibility and localization
- Ideal for permanent installations
- Difficult to detect
- RFI/EMI immunity
- Fiber cable - any length

