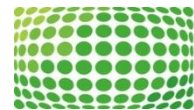




High performance acoustic products

Optical

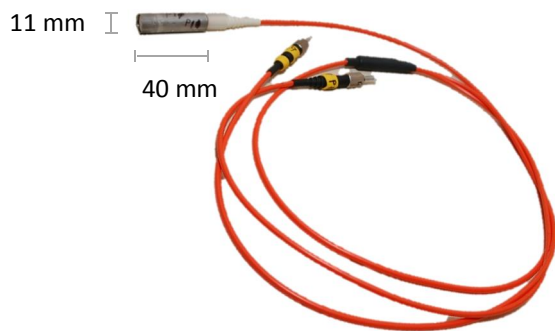
High Performance Microphones



SmartSenseCom
INCORPORATED

High Performance Microphones

SmartSenseCom (SSC) high performance microphones employ optical sensing technology developed by the U.S. Navy. The Navy needs highly sensitive instruments that detect and characterize sounds in a wide range of environments. The Naval Research Laboratories invested several decades in the evolution of this technology. The result: SSC produces the best outdoor microphone in the world today.



Example design – other form factors and sizes (smaller or larger), depending on application

Advantages & Features

SSC's high performance optical microphones achieve breakthrough performance compared to the best instrument microphones on the market today:

- **Broad-band frequency response** – From 1 Hz to 200,000 Hz
- **High linearity** – native flat frequency response; linearity across entire frequency range (including low frequencies)
- **High sensitivity, low noise, high dynamic range** – SSC microphones detect low pressures while maintaining > 130 dB dynamic range and signal stability. SSC can design to virtually any sensitivity.
- **Robust, designed for demanding operational conditions** – The patented SSC technology eliminates the distorting effect of temperature and humidity which affect condenser microphones and alternative optical technologies; a simple and durable design delivers nearly identical performance in outdoor and operational environments as it does in the lab

- **High quality signal for advanced processing** – Combining very high sampling rates (50 ksps - 2.3 Msps) and very low measurement error, SSC microphones produce a highly accurate waveform as input for any application
- **Passive detector** – 100% dielectric microphones are available with no metal or other conductive components
- **EMI immunity** – The passive optical sensor and fiber optic cabling are impervious to electromagnetic interference
- **Low power** – SSC optical microphone system design results in extremely low power requirements
- **Leaner system, smaller footprint** – The SSC optical microphone system does not require pre-amplifiers, signal conditioners or amplifiers and all cables are fiber optic, significantly reducing system complexity and size
- **Simpler arrays and management** – SSC optical microphones do not require continuing field calibration, provide consistency of output from microphone to microphone and use a single software control interface regardless of system configuration

Many Applications

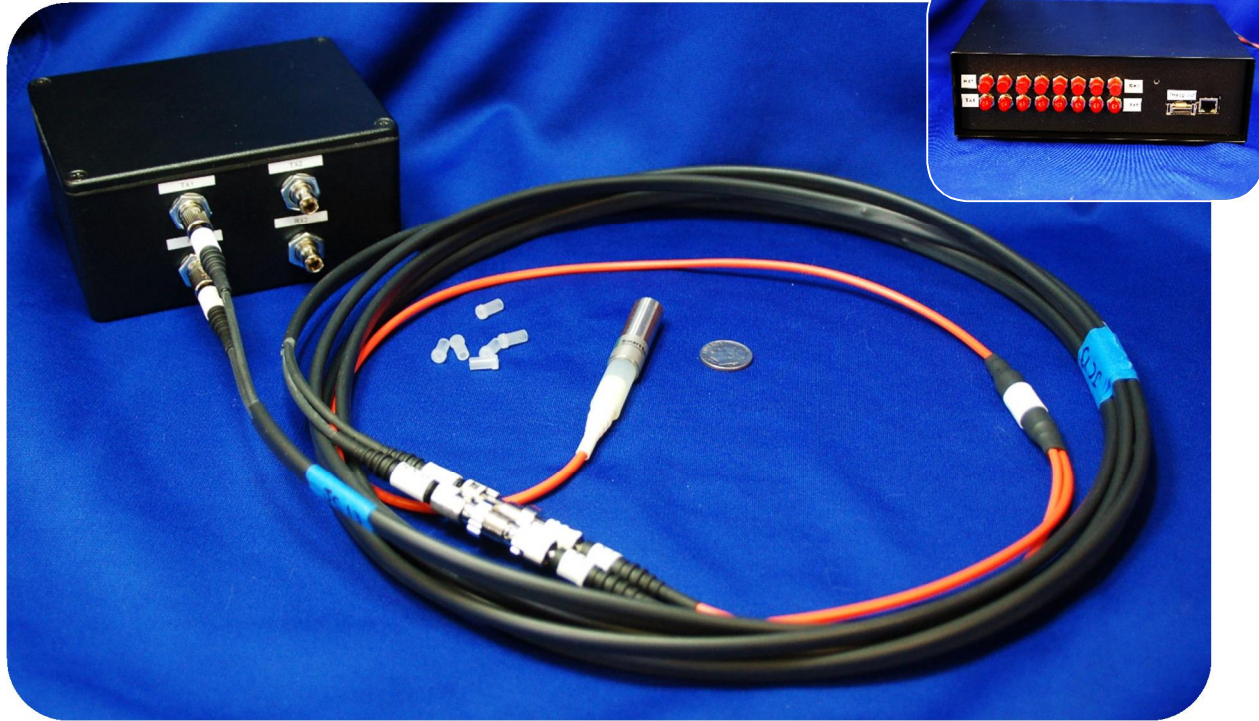
While SSC's high performance microphones are well suited for most instrument, measurement and control applications, the high quality signal they produce offers distinctive solutions for acoustic applications that rely on advanced signal processing. A few of the many applications for these products include:

- **Aerospace engineering** – Easily transportable and rapidly deployable arrays for noise and vibration source identification for aircraft engine testing and maintenance
- **Defense and security** – Identification and location of small airborne threats such as drones
- **Heavy industry and manufacturing** – Machine condition monitoring to detect problems in rotating and reciprocating machinery such as pumps, gear boxes, compressors or generators
- **Noise management** – Noise source identification and characterization for aircraft, automobiles, wind turbines, and other industrial equipment and facilities to help customers meet increasingly stringent noise abatement requirements
- **Sound engineering** – High-quality sound recording for advanced sound engineering or to aid in acoustic design of buildings

High Performance Microphone System

2-channel electro-optics

8-channel electro-optics



Type	Optical
Output	50 ksps to 2.3 Msps A/D (software selectable)
Use	Indoor/outdoor, harsh environment
Operating Temperature	-30°C to +80°C

Contact us

For more information please contact:

SmartSenseCom, Inc.
 126 C Street NW
 Washington, DC 20001-2118
 Tel: (202) 360-9752
 Email: tash@smartsensecom.com

<http://www.smartsensecom.com>

The data and illustrations are not binding. We reserve the right to make changes without notice.

© Copyright 2013 SmartSenseCom Inc., All rights reserved.



SmartSenseCom
 INCORPORATED

Rev. 1 . Brochure . 2014.04