



# Active Noise & Vibration Control

Increasing Aircraft Passenger Comfort

## Key features

- Controls noise and vibration from propellers and engine fans.
- Adapts to changes in engine RPM.
- Controls noise and vibration throughout the entire flight.
- Actuators and sensors discretely mounted behind trim.
- Works with any passenger configuration.
- Optional built in propeller balance system.

## Overview

Aircraft propellers, engine compressors and engine turbines create noise and vibration within the cabin and cockpit. This can be uncomfortable for the people on-board, increasing fatigue, reducing crew performance, and over long periods can be damaging to hearing.

Ultra PCS has developed a system to cancel this unwanted low frequency propeller, turbine and compressor noise and vibration.

The system reduces the noise and vibration throughout the entire cabin, performing significantly better than noise reduction headsets at these low frequencies.

The system uses an array of actuators to generate noise and vibration that is opposite to the noise and vibration present in the cabin. The noise from the actuators interferes with the noise in the cabin and the result is that the noise is significantly reduced. The system uses inputs from an array of sensors that listen to the noise and vibration in the cabin. The signals from these sensors are used by the Active Noise Control Unit (ANCU) to determine the necessary outputs from the system's actuators.

## Existing applications

Ultra PCS is the world's leading supplier of active noise and vibration control products for aircraft, and has an unrivalled 30+ years' experience supplying systems to over 1200 aircraft. These aircraft include:

- Bombardier Q100, Q200, Q300 and Q400
- Saab 340 and 2000
- Beechcraft King Air
- Lockheed C-130 Hercules

# Noise and Vibration Control Products

## The Active Noise Control Unit (ANCU)

The ANCU is environmentally qualified to RTCA DO-160. Its outputs can drive vibration actuators and loudspeakers, and its inputs can monitor microphones or accelerometers.

### Features

- Up to 96 sensor inputs
- Up to 48 actuator outputs
- Weight 4 Kg



## Loudspeaker

Ultra PCS loudspeakers are specially designed to operate reliably at low frequency.

### Features

- Custom enclosures to fit the aircraft
- Weight 0.5 Kg



## Active Tuned Vibration Absorbers

Ultra PCS actuators are designed for high reliability and efficiency. Versions with built in control are available.

### Features

- Tuned for optimum electrical efficiency
- Weight 0.5 – 1.2 Kg



## Sensors

Ultra PCS microphones and accelerometers are designed for high reliability, light weight and ease of installation.

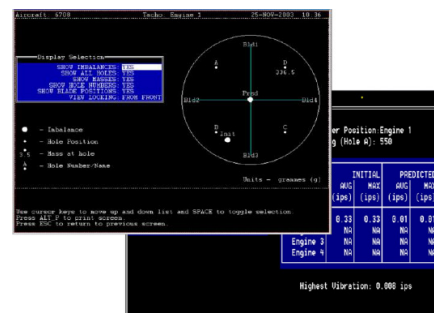


## Full Design, Supply and Support Service

Ultra PCS offers customers a full design, development, qualification, supply and worldwide support service.

## Production Lead Time

Products are normally produced within 6 months from receipt of orders.



**Ultra Precision Control Systems**

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Ultra PCS reserves the right to vary these specifications without notice.

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