

**SUPPLEMENT No. 1****ACTIVE NOISE CONTROL SYSTEM (OPTION)****1. GENERAL**

The interior noise levels in a propeller-driven aircraft are typically dominated by the low-frequency blade-pass tones from the propeller. Other noise sources are for example the turbulent boundary layer.

The propeller noise is periodic with the blade pass frequency while the turbulent boundary layer noise is random. It is not possible to reduce the random component of the noise with a noise control system. However, the propeller component is controllable.

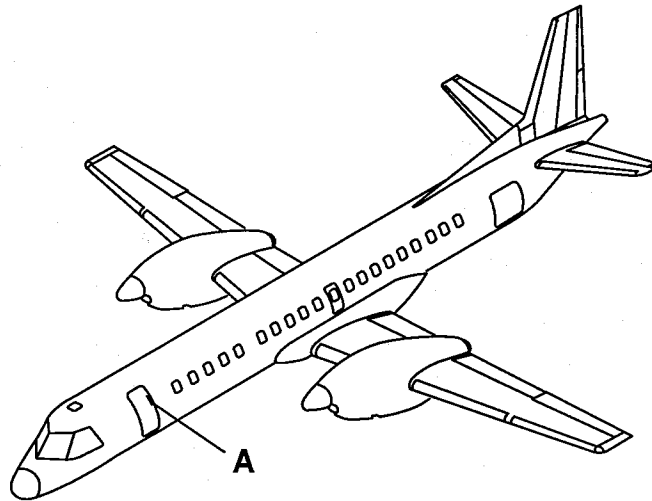
The Active Noise Control system (ANC) consists of:

- A control processor located under the cabin floor.
- Loudspeakers integrated in interior trim.
- Control microphones also integrated in interior trim.

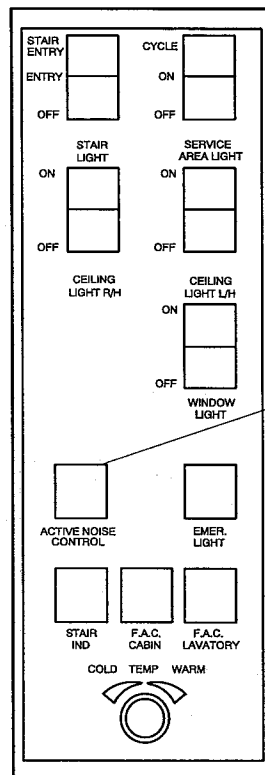
The control system uses the loudspeakers to duplicate the propeller noise fields in the cabin. The more loudspeakers that are used, the better spatial matching between the noise and the anti-noise. The control microphones monitor the residual noise field in the cabin and enable the controller to adapt its sound output to the changes in the propeller noise. To ensure the ability to match the cabin noise in time, the temporal matching, the control system uses tachometer signals from the propeller (the AC generator).

**2. CONTROLS.**

The Active Noise Control pushbutton (ANC) is located on the cabin lighting panel. The pushbutton is set to the normal pushed in position for automatic noise control.



## A FLIGHT ATTENDANT PANEL



### ANC pushbutton

**FAULT** – A fault in the ANC system is detected, ANC is degraded or inoperative.

**OFF** – ANC is manually deactivated.

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Fig. 1. ANC control.

### 3. ELECTRICAL POWER SUPPLY.

Active Noise Control . . . . . RH UTILITY BUS      M-20      ACTIVE NOISE