



The noise cancelling device could let people keep their windows open, while blocking traffic noises | Photo source Nanyang Technological University

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NOISE-CANCELLING WINDOWS COULD MAKE CITY LIVING MORE PEACEFUL

HEALTH & WELLBEING

Researchers have developed noise cancelling technology that allows open windows to block noise

Spotted: Anyone who lives in a big city knows the routine – you open the window to get some air and are instantly assaulted by the noises of urban life – the cars and trains, arguments and loud dogs. Researchers in Singapore may now have a way to help block this out. They have developed an apparatus that works like a pair of noise-cancelling headphones for your windows.

A team of researchers at Nanyang Technological University in Singapore developed a prototype, called the Anti-Noise Control Window, that expands the concept of noise-cancelling headphones to encompass an entire room. The prototypes consist of 24 small speakers that are placed in a window and emit sound waves that correspond to incoming noise and cancel it out.

To capture incoming sounds, the system uses a microphone positioned outside the window to detect sound waves, and a computer controller to determine the wave frequency needed to neutralise the sound. This is then transmitted to the speakers on the window frame.

Researcher Dr Bhan Lam, at Nanyang's Centre for Information Sciences and Systems, [explains his interest](#) in the project: "I grew up in Singapore. It's a small city with a lot of noise, so I have some motivation to solve this problem." The system is best at moderating the types of steady noise sources found between 300 and 1,000 hertz. Unfortunately, this does not include most human voices. Thus, one of the next hurdles will be to find a way to muffle loud conversations.

Noise is one of the banes of modern existence, so it is no surprise that we have seen a number of innovations aimed at making life quieter. These include sound-absorbing [chairs](#) for offices and noise

reducing acoustic panels made from [wool](#).

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Takeaway:

In addition to difficulty with voices, the system is also not good at eliminating sporadic sounds, like firecrackers and car backfires, which are often the most annoying. The researchers could increase the range of frequencies that are cancelled out by using larger bass speakers, but this would make the system even larger and more unwieldy. [Dr Lam says](#), “One complaint that we get is that it’s ugly.” Still, for some, ugly may be a small price to pay for peace and quiet.