How to Reduce Air Conditioner Noise

How noisy is NOISY? The threshold of pain is 140 dB! A jet taking off is 125 dB and a heavy truck passing nearby is about 92 dB. A loud conversation measures around 77 dB and a busy office is about 65 dB. According to most noise laws an air conditioner should be around the 70 to 75 dB level, give or take a few dB. If you live close to industry, traffic or airports then the acceptable noise levels may even be higher. Here are a few pointers that can help reduce air conditioner noise.

1. Install air conditioners away from bedroom windows and living areas such as family rooms or patios. Keep neighbors in mind when planning this. Consider installing the unit at the front of the house.

2. Distance is important. When you double the distance between you and the air conditioner, you decrease the sound by 6 dB, which is about \( \frac{1}{4} \) as loud.

3. Don’t install the A/C unit between brick walls or in corners with multiple reflective surfaces. Sound is like water and tends to move like ripples in a pond. Initially the sound waves radiate outward from the source and then reflect off any hard, obstructing surfaces. As the sound waves bounce around they can have a trumpet-like effect and amplify the noise.

4. To block existing noise sources, erect a solid wall directly between you and the noise source. A strategically located wall can form an effective sound barrier. When designing the wall consider the location of the noise source and the path of any reflective sounds. Ensure the barrier has no gaps that will allow the sound to leak through. An effective acoustic wall should have a surface density of no less than 20 kg/m\(^2\). Suitable materials include concrete, brick, wood and metal.

5. Erect a wooden shed insulated with fiberglass to enclose the air conditioner. This provides good noise reduction but can have a negative effect on the air conditioner's performance if not designed with sufficient airflow.

6. Consider purchasing a premium air conditioner designed for quiet operation. As air conditioners become less expensive they also tend to be made from cheaper parts - which can be nosier. Most air conditioner noise emanates from the compressor (especially during startup), but some noise also comes from the fan motor and from the sound of the air being moved by the fan. An air conditioner designed for quiet operation addresses these three noise sources by adding a sound blanket, a quiet fan and an airflow design that minimizes noise.

7. Install a Brinmar Sound Blanket on your air conditioner’s compressor. It’s guaranteed to make your air conditioner comply with local noise laws. It is a cost-effective solution compared to replacing or moving an air conditioner. Sound blankets are a conventional form of a/c noise reduction and they do not adversely affect the compressor warranty, performance or life expectancy.