

Appendix 4 Air conditioner noise

This brochure was published by the former Australian Environment Council. It is no longer available but is reproduced here as the information is still relevant.

Air conditioner noise

Buying an air conditioner?

Then protect your investment and buy one that will not intrude noisily on your neighbours.

In Australia there are laws that stop noisy air conditioners from being used where the noise is annoying to neighbours. In fact your air conditioner may need to be inaudible to your neighbours if you wish to use it at night.

The best policy is to buy the quietest air conditioner suited to your heating/cooling needs and have it installed as far as possible from neighbours or in a well shielded location. Most air conditioners in Australia have a label which describes the amount of noise they make. The smaller the number of dBA on the label the quieter the air conditioner.

OUTSIDE SOUND POWER LEVEL	60 dBA
<small>(LOWER LEVELS MEAN LOWER OUTSIDE NOISE) THE LEVEL SHOWN ABOVE MAY BE USED TO ESTIMATE WHETHER THE OUTSIDE NOISE FROM THE PROPOSED INSTALLATION OF THIS UNIT WILL BE WITHIN ACCEPTABLE LIMITS</small>	
CONSULT YOUR SUPPLIER BEFORE INSTALLATION	
<small>(MANUFACTURER)</small>	<small>(MODEL No.)</small>



The number on the air conditioner you buy should not exceed the number you calculate using this guide.

Note that the back page provides a quick estimation for some commonly used air conditioner locations.

It is also recommended that you consult your air conditioner salesperson or installer before you commit yourself.

What to do

Follow steps 1 - 4 carefully or make sure that the person selling or fitting your new air conditioner makes a similar check for you.

- Step 1** The closer your air conditioner is to your neighbour the quieter it will need to be. Follow the procedure in Appendix A and put your answer in Box 1.
- Step 2** If there is a fence or wall between yourself and your neighbour the noise may be reduced. Check this using Appendix B and put your answer in Box 2.
- Step 3** Noise can reflect off walls and make your air conditioner appear louder. Follow the instructions in Appendix C and put your answer in Box 3.
- Step 4** Add the numbers in Box 1 and Box 2 then subtract the number in Box 3.



The number on the label of your air conditioner should not be more than the number in the answer box.

If you already own an air conditioner and the number on it is bigger than that in the answer box, then you may need to consider the feasibility of installing a noise control device specially designed for the air conditioner, locating the air conditioner elsewhere or replacing it.

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Appendix A

Step 1 Measure the **shortest** distance, in metres, between where you want to put your air conditioner and the nearest neighbouring fence line. Mark the distance with an X in column 1, below.

Bear in mind that to reduce noise, air conditioners are best placed in a location which provides the greatest distance between the air conditioner and neighbours. This could, for example, mean mounting your air conditioner facing the back fence or front street.

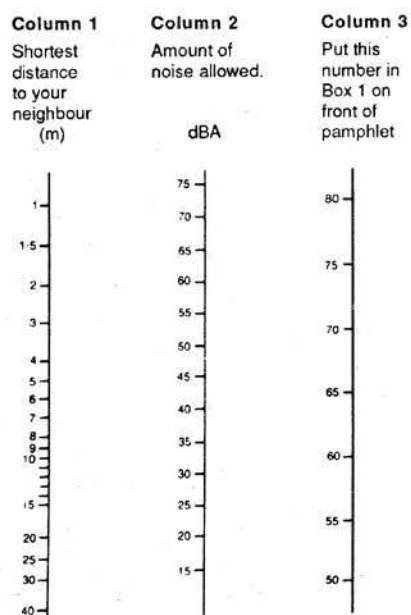
In rural areas you may consider that it is more relevant to measure the distance between your air conditioner and the nearest area used by your neighbour (such as a garden relaxation area).

Step 2 Find out if there are laws regarding noise in your State or local area. Information on who to contact is listed on the back of this pamphlet.

Mark the amount of noise allowed in your area with an X in column 2.

If there is no prescribed maximum amount of noise and you live in a quiet residential area, a mark at 40 dBA or less could be used as a guide. Alternatively you may wish to arrange to have the background noise levels in your area measured.

Step 3 Draw a straight line from the X in column 1 through the X in column 2 to cut through column 3. Write down in Box 1 on the front of this pamphlet the number in column 3 that is on the line you have drawn.




Appendix B

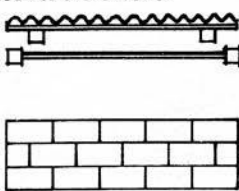
A fence/barrier can reduce the level of air conditioner noise heard in neighbouring premises. To do this a fence/barrier will need to be continuous and solid. It should contain very few gaps, particularly where the fence meets the ground. The fence/barrier must also prevent the air conditioner being seen from noise sensitive locations on neighbouring premises. Noise sensitive locations include windows of bedrooms and living rooms (including those of multistorey dwellings) and outdoor entertaining/relaxing areas.

What to do

Carefully read through the fence/barrier descriptions below starting at point 1. Select a value that corresponds to the fence/barrier description applicable to your situation. Put this value in Box 2 on the front page.

Value for box 2

- | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----|
| 1. The fence/barrier does not prevent the air conditioner being seen from between the air conditioner and noise sensitive locations on the neighbouring premises. | 0 | |
| 2. The fence/barrier only just blocks "line of sight" and it is made of material having gaps, such as a standard picket fence, a brush fence or a brick fence with fancy iron inserts. | 0 | |
| 3. The fence/barrier only just blocks "line of sight" and is made of solid material. | 5 | |
| 4. Fence/Barrier with Gaps
e.g. Hedges/bushes/trees
Ti tree/brush
Picket fence
Fence in disrepair with holes or missing planks
Cyclone fence
Masonry fence with decorative open inserts. | 0 | |
| 5. The fence/barrier completely blocks "line of sight" of the air conditioner noise sensitive locations. | | |
| Typical Paling Fence
e.g. Planks overlapped by 25 mm planks, 13 mm thick. Air gaps between palings due to warping etc. |  | 6 |
| Solid Fence with no Gaps and Flush to the Ground.
e.g. Galvanised iron
Fibre cement sheeting
20 mm Pine planking with 35 mm overlap.

Concrete block/
masonry/brick |  | 10 |

Special notes

- If you consider that your house would stop noise reaching your neighbours, consult the authority listed on page 4 for an appropriate value.
- If in doubt about your fence type, select a low value.

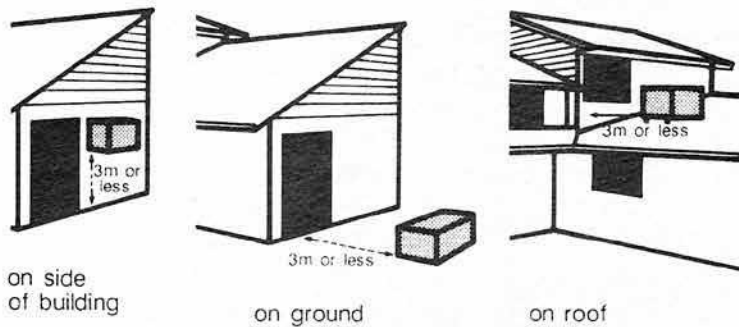
Appendix C

Just as light reflects from mirrored surfaces, sound will reflect from walls, carports, roofs and the like. Find a diagram below which would correspond to the placement of your air conditioner. Put the corresponding value in Box 3 on the front page of this pamphlet and go on to **STEP 4** on the front page.

Value for box 3

One reflective surface

3



Two reflective surfaces

6

