

13 PUBLIC ADDRESS SYSTEMS

Public address systems are commonly used in conjunction with outdoor entertainment and sporting activities and can cause annoyance if used inappropriately. For the purpose of this guideline public address systems may be divided into two categories: low-power units needed for control of persons engaged in the activities or events; and high-power units used for making public commentaries and announcements.

Objectives

In all cases, the environmental objective should be noise intrusion of not more than 5 dB(A) above background at any affected residences or other noise sensitive locations.

Corrections for tonal or impulsive noise usually are not necessary, and further tolerance of up to 5 dB(A) may be allowed for unique or very infrequent activities with recognised social merit. Amplifier level settings must be minimised whilst ensuring conveyance of information to audience or participants is adequate.

Restrictions on the times of use of public address systems should be considered. Noise from PA systems must not be audible inside a residential dwelling during normal sleeping hours.

Low-power systems for event control

These are usually small systems such as are used for controlling competitors in events like BMX bik races and go-kart races. Where such systems may cause noise annoyance, the following criteria should be applied:

- The public address system must only be used to control the event, not for giving commentaries, advertising or playing music.
- Speakers may only be installed in the essential control areas, such as marshalling sites.
- Speakers should be small, low-power horn units no more than 20 cm across the horn opening and operated by an amplifier of no more than 30 watts.
- Horn units are to incline downwards at an angle of approximately 45°, point in the appropriate direction and be mounted on poles approximately three metres tall, in such a way that the speaker is held firmly and cannot be rotated.
- A sound level limiting circuit should be incorporated in the amplifier to control the signal amplitude to a fixed level, regardless of the loudness of the operator's voice.
- Once the control knobs have been set to the correct positions, they should be removed and the potentiometer spindles covered with a fixed metal channel attached to the front panel of the amplifier.
- The spare microphone inputs should be covered with metal plates securely fitted to the rear or front panel of the amplifier, as the case may be.

High-power systems for commentaries and announcements

These are usually much larger systems used, for example, to give a running commentary during a sporting event or race meeting, to keep spectators entertained or for carnival-type advertising.

- Most of the criteria for lower power systems are applicable.
- Rather than use high-powered speakers placed in a few locations, it is preferable to place more low powered speakers to cover the entire perimeter of the grounds, each pointing downward and inward towards the ground where the event is taking place.

Note:

1. Consideration should be given to substitution of sound systems by visual displays such as electronic scoreboards and video screens for large operations.
2. PA systems used for paging staff and patrons in business and catering operations may also be replaced where they adversely affect residences. In business, two-way radios or pocket beepers may be used. In hotels, meal ticket numbers may be presented on digital display boards instead of being announced.