

# HOW TO CHOOSE AN AUDIBLE SIGNAL

## Purpose Ambient Noise Coverage

When choosing a signal for an application, remember the acronym **PAC**. If you determine a signal's **PURPOSE**, the **AMBIENT NOISE** of the environment and the area of **COVERAGE** that is needed, you will be able to fit the right device to your application.

### Purpose

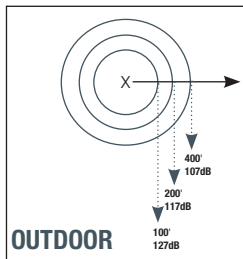
Determine whether the signal will be used for the monitoring of a process or for emergency notification (fire, chlorine leak, natural disasters). Study operational uses such as start/stop work, coded paging and voice messages. Also, the type of duty cycle (i.e.: time device is on vs. time off) will determine what device is best suited for a given application.

### Ambient Noise Coverage

Ambient noise levels and the frequency (low or high) are critical in determining the type of device to be recommended. Most facilities will have already recorded this information for OSHA compliance.

How big of an area is to be covered? Coverage requirements dictate the type(s) and number of devices that will be needed. A plot plan of the plant or a blueprint of the building can be very helpful in determining area of coverage, and help analyze what obstructions might be a factor in complete plant coverage.

## Measuring Sound



The following chart demonstrates the role distance plays in the “loudness” of an audible signal. Most of our devices are measured at a distance of 10 feet (on axis); Outdoor Warning Sirens are measured at 100 ft. (on axis). This gives us a common point for comparison.

To understand the range of these devices, use a 6dB loss per distance doubled for the regular devices and a 10dB loss per distance doubled for outdoor sirens.

For example, a regular device produces 6dB less at a distance of 20' than at 10'. An outdoor warning device is 10dB less at 200' than at 100'.

## Outdoor Warning System Design Considerations

- Outdoor sirens can be easily linked to your indoor system, and offer an economical alternative to wide area outdoor coverage.
- Outdoor sirens can be easily activated by radio control, thus eliminating the need for hard-wire hook-ups.
- The critical functions of an outdoor siren can be monitored using 2-way status monitoring equipment.
- A battery back-up power supply can make your system more reliable and flexible.
- Encoders and decoders offer a high level of activation security when using radio control.

**Federal Signal designs, manufactures & engineers  
Systems containing any or all of these components.**

## Federal Signal can help...

Federal Signal's highly trained field sales force have the expertise to help you design a signalling communication system that fits your unique needs. Let us assist you in making your facility a more productive and safe place to work.

### We Can Help You:

- Comply with OSHA Standard 1910.165 — Employee Alarm Systems
- Expand your PA System without purchasing a new amplifier
- Tie your phone system to your evacuation/paging system
- Zone your in-plant communication systems
- Save on installation costs with wireless solutions
- Increase productivity and reduce downtime with simple signalling solutions

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