

# A Guide to Simple PA Systems

## For a Small Business

Let's start by working out how many and what type of speakers you need. We have various type of speaker for all sorts of applications. Here are the most common types for basic system.



**Ceiling mounted** - Used in offices and rooms with false (suspended) ceilings.



**Wall mounted cabinets** - Primarily used in offices and rooms without false ceilings.



**Suspension spheres** - Used in warehouses and workshops with high ceilings/roof clearances.  
(good for music)



**Projection speakers** - Used in warehouses and workshops without high ceilings/roof clearances.  
(good for music)



**Horn speakers** - Used in very noisy production areas, external areas.

It is quite common to select say, **ceiling speakers** for office areas and **projection speakers** for a warehouse in a typical business environment. It is also fine to mix wall and ceiling speakers in different offices and rooms. The important thing to consider is the total wattage your speakers will present to an amplifier which is selected in the **next step**.

### A Typical Small Business System:

QUANTITY	TYPE	WATTAGE SETTING	TOTAL WATTAGE
2	Wall cabinet 6w max	6w	12w
12	Ceiling speaker 6w max	3w	36w
4	Projection speaker 15w max	7.5w	30w
	<b>TOTAL WATTAGE</b>		<b>78w</b>

It is useful to recognise that speakers do not need to be set to their maximum setting and may in fact be too loud even when tapped down to a lower setting. All speakers usually have a minimum of three volume tappings, some have more to enable you to adjust a particular speaker level to suit the location.

Most amplifiers are rated at 30, 60 or 120 watts for small systems, so from the calculations above we can see that we need to use an amplifier larger than 60 watts, the ideal choice being a 120 watt unit. This leaves us some power in reserve for future expansion and in any event, it is good practice to keep an amplifier loaded between 80-90% for greater reliability.

Presumably you will need at least one microphone for making an announcement, maybe more, most amplifiers have multiple inputs available for up to three microphones and one or more music inputs (radio or CD).

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## Typical products for small business applications



## Speakers suitable for warehouses and production areas



## Outdoor weatherproof horn speakers

