

FACTS AND FICTION: A FEW WORDS ABOUT OUR PRODUCTS, ACOUSTICS AND PHYSICS

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Real life is sometimes very different if compared with Science Fiction or the silver screen.

Plenty of things made possible by Sci-Fi, will never be the same in everyday's life: this is because they are still to be invented or discovered, or simply because they are against the laws of physics that rule the real world.

This "golden rule" must always be kept well in mind when considering any application that is related to remote listening/monitoring devices: this is especially true when we think about James Bond saga, as well as many other recent spy movies on the silver screen which have often led plenty of people to the wrong belief that possessing some small magic "black box" would allow them to easily overcome any obstacle in a matter of seconds.

This is unfortunately not exactly the way it goes...

Just as you definitely cannot step through any concrete wall in the way you would through an open door, so you are due to experience quite a few problems if you try to make yourself heard from any person outside a building when you are speaking in a totally sealed room inside that very same building.

Let's now consider two different points in space named "A" (acoustic source) and "B" (listening post): in order to go from a given point "A" to any given point "B", acoustic waves travel through the air following a substantially straight line from the emission point to infinity and their strength diminishes as long as they travel over the square of a distance.

This situation given, any physical obstacle coming across the imaginary line joining together point "A" and "B" will have the immediate effect to interfere with the acoustic wave emitted and either break, blow or modify its shape.

Both operating environment and weather conditions are crucial factors which must be taken into serious consideration, as they are strictly related to any long-distance air-to-air listening/monitoring application.

For instance, weather-related factors such as medium or strong winds will dramatically affect performance of air-to-air listening instruments, for a very simple reason: as long as the acoustic waves use air as their "transportation means" to travel over a distance following a straight line, the presence of strong wind gusts coming crosswise will blow away some of the words composing the acoustic waves, thus preventing a thorough listening at the listening post.

Environment-related factors such as motor vehicles, crowded areas, streets and avenues, flying-by planes or helicopters, highway junctions, nearby industrial facilities, power stations, road/construction works, kids in their playgrounds, barking dogs and sometimes even birds and other animals are all to be considered as interference factors playing their role within a given operating environment and delivering various kinds of interference which are all supposed to be different by type and intensity. Last but not least, the amount of sound from the source/speech level at origin both influence how far away the acoustic waves will travel the air.

If we carefully take into account all the above, we cannot help to realize that carrying out an apparently easy task such as listening over a distance in a urban environment is definitely no piece of cake: this is why we have tried our best to provide our customers with the most reliable REAL-LIFE, air-to-air listening/monitoring systems.