

Static and Noise

By the term static is meant the radio disturbance caused by natural causes such as lightning, electrical sparks etc. the disturbances so produced in a receiver are sometimes called noise but usually the word noise is used to denote the electrical disturbance of man made origin. When most of static arriving at a receiving point is of distant origin, then these sources tend to lie in certain specific directions. It is found that the field strength of static on the average is approximately proportional to the frequency. This can happen if the electrical discharge which generates the static is a pulse of relatively long duration. When the static is of local origin the intensity is accordingly less the higher the frequency and becomes negligibly small at ultra high and micro wave frequencies. In case of static of distant origin the magnitude of static received at a receiving point depends further on the propagation characteristics. Thus distant sources cannot produce static at ultra high frequency and micro waves since ionosphere propagation at these frequencies is not possible. Similarly at any frequency in the short wave range, the magnitude of the interference produced due to distant source of static will depend upon the time of day, distance etc. at medium waves during day time, static of local origin alone is present since static of distant origin propagated using surface wave propagation dies down on having traveled short distance. During night time however medium wave range static of both local origin are present. Static in long wave range has very high intensity. This results because of two main reasons. Firstly natural sources of static produce large intensity static at low frequencies and low frequency radio wave propagation very efficiently over long distance under almost all conditions. The following means can be adopted to reduce response of receiver to static. Firstly by reducing the pass band of receiver to minimum required since the energy of static received by a receiver is proportional to the pass band. Secondly by use of a limiter to limit the signal and static to suitable pre determined high level. This removes all large amplitude static of impulsive nature. Thirdly by use of frequency modulation for communication automatically suppresses static through capture effect, if the signal magnitude appreciably exceeds the magnitude of the static. However, frequency modulation because of its large band width requirements may be used only at ultra high frequencies in which range of the static or interference is least severe. And lastly use of directional receiving antenna may be made to receive the maximum signal from the desired direction and to receive minimum static. Of course this expedient also fails if the direction of the signal is the same as the direction of static.

About the Author

Tymon Hytem has worked in the electronics field for the past 15 years. He enjoys helping people decide on electronic gadgets from finding the right phone for your business and can help you choose the perfect [Background Music](#) for your business needs.

Source: <http://www.gig-events-guide.co.uk>