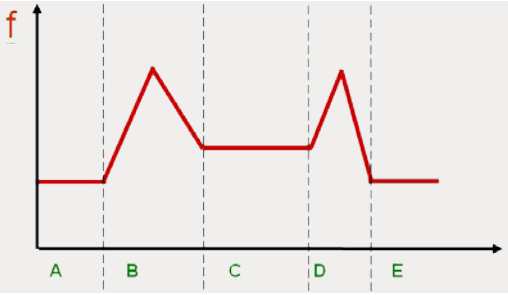
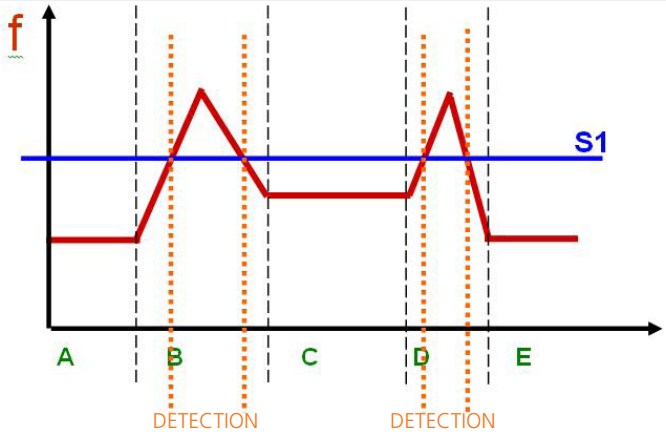
MATRIX

Automatic Sensitivity Boost Function

The graphic on the right shows the frequency and induction variations measured by an induction loop detector when a truck passes over a loop. The variation is bigger at cab and axle level (positions B and D), and smaller at trailer level (position C). This observation can be explained by the fact that the trailer is generally higher than the cab (with regard to the ground) and consequently influences the loop induction less.





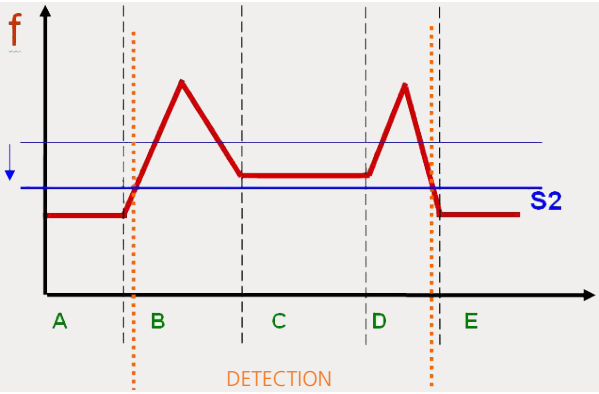
In this application, the sensitivity is adjusted via the potentiometer to the value S1. This means that every frequency superior to this limit creates detection and therefore relay activation.

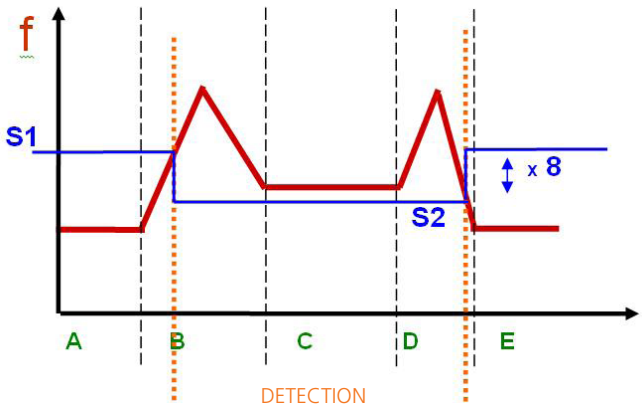
When we analyse the frequency variations generated by the truck when it passes on a loop, we see that the truck is detected. If the truck stops on the loop at cab or axle level (positions B and D), the detection will be maintained. If, however, the truck stops with its trailer on the loop (position C), the detection will be lost and the door, gate or barrier will close down on the truck.

To avoid this loss of detection, you have to increase the sensitivity (S2). That way the truck will always be detected, even if it stops with the trailer on the loop (position C).

In certain applications or environments, a high sensitivity leads to unwanted detections (interferences between loops, detection of surrounding objects).
In this case, it is sometimes difficult to find the right sensitivity level which corresponds to all the criteria.

The **Automatic Sensitivity Boost (ASB)** function becomes an inevitable necessity.





Definition of ASB:
During detection, the sensor automatically multiplies the sensitivity set by the potentiometer (S1) by 8 (S2). The sensitivity is limited to the maximum sensitivity and goes back to its initial value (S1) after every detection.

This function enables a high sensitivity during detection only in order to avoid "losing" a truck.

The ASB function is therefore highly recommended for detection of elevated vehicles such as trucks, but also for all-terrain vehicles which have a big success these days.