

1.2.4 Receiver sensitivity

The sensitivity of a receiver is normally taken as the minimum input signal (S_{\min}) required to produce an output signal with a specific signal-to-noise (S/N) ratio. S/N is a required minimum ratio, if N is increased, then S must also be increased to maintain the S/N ratio. The threshold value is chosen high enough above the mean noise level so that the probability of random noise peaks exceeding the threshold, and causing false alarms, is acceptably low. It is defined (in log domain/dB) as

$$\textit{Sensitivity} = \textit{NoiseFloor} + \textit{Receiverprotectionratio} \quad (\text{Eq. 6})$$

In SEAMCAT, the following equation (in log domain/dB) is applied:

$$\textit{Sensitivity} = \textit{NoiseFloor} + C/(N + I) \quad (\text{Eq. 7})$$

Where $C/(N+I)$ is the carrier (or signal) to interference plus noise ratio as input to SEAMCAT. The S/N is equal to the $C/(N+I)$ in the absence of any interferer.

In SEAMCAT, this is used in the calculation of the receiver attenuation in Sensitivity mode. See Annex [A8.5](#) for further details.

Revision #1

Created 2026-04-14 07:37:42 UTC by ECO TECH

Updated 2026-04-14 07:39:48 UTC by ECO TECH