

Emission Details

Emission - 200MV7N

The 6th character describes 'Nature of Signal Modulating the Main Carrier'. As the radar is emitting pre-defined frequency modulated pulses (chirps), no 'information' drives the modulation from a communication point of view, but it is not a non-modulated signal, this calls for designator 'X'. However, from a radar point of view, each bit of the chirped pulse contains frequency 'information' that is used in the following pulse compression process. As the modulation of the chirp is digital defined and transmitted in more than one band (channel), the designation should then be '7'.

The transmitter is embedded so that digitally it may generate linear frequency modulated pulses (chirps) within a 200MHz band. The frequency modulation ranges up to 20MHz and the chirp length between 100ns and 12us. Typically, one long chirp at one frequency and one short chirp will be sent on another frequency. The short chirp is used for covering the blind zone resulting from the radar not receiving echoes simultaneously with the transmission. The transmitter may place the chirps freely within the 200MHz.

The receiver may receive frequencies in two 90MHz bands (a high and a low side band) and from pulse to pulse, the receiver may choose to receive either the high or the low side band.

The receiver samples the signal with 200MHz in order that the filtering of the frequency band is made digitally and thus is ideal as a matched filter with high suppression of unwanted frequencies outside the transmission band. Thus, the radar is very tolerant to signals from other sources transmission at frequencies outside its own transmission band.