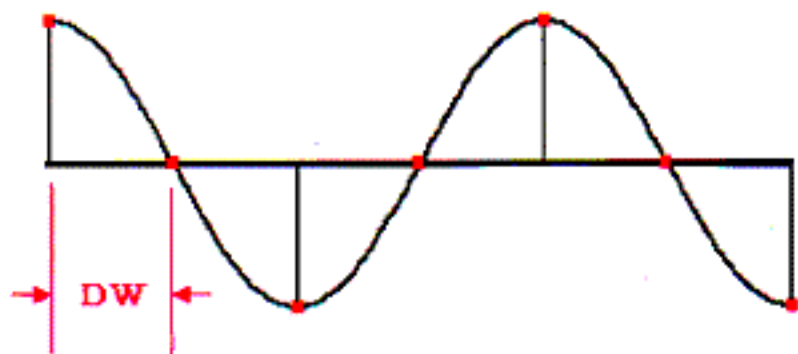
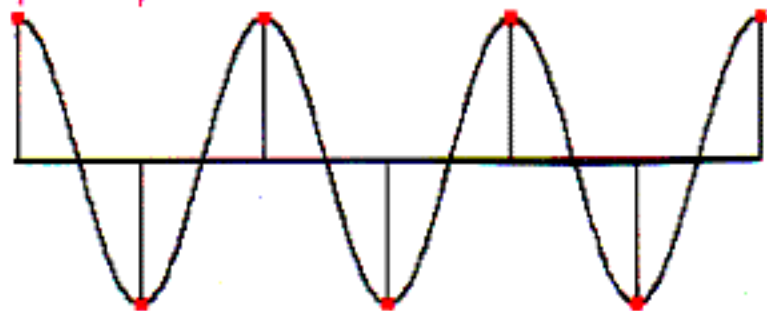


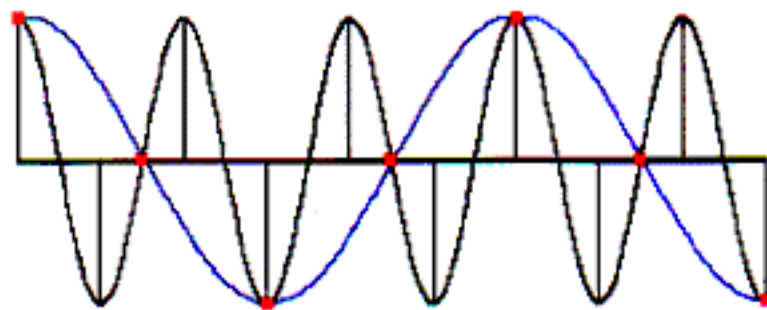
## Limits of Digitization



**1.5 Cycles**  
**4 samples / cycle**



**3 Cycles**  
**2 samples / cycle**  
**maximum frequency**



**4.5 Cycles**  
**1.33 samples / cycle**  
**aliased**  
**1.5 Cycles**

For a given interval between sampling ("dwell"), frequencies can be accurately determined up to a frequency for which there are two samples per cycle. Lower frequencies have more samples per cycle, but higher frequencies have fewer than two samples per cycle. For example, the 4.5 cycle signal shown gives the same digitized data as the 1.5 cycle signal, and is thus interpreted incorrectly ("aliased") as a 1.5 cycle signal.