

## 9 Beamforming

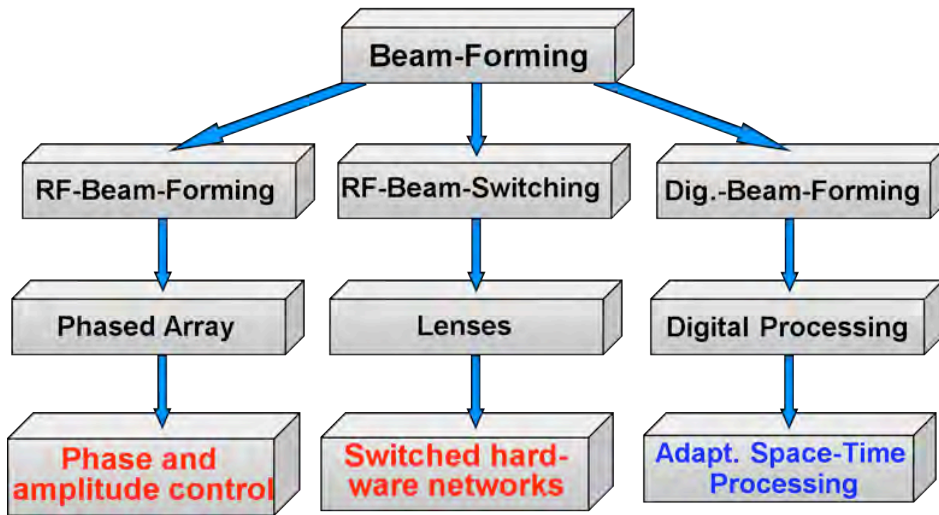


Figure 9.1 Beamforming concepts.

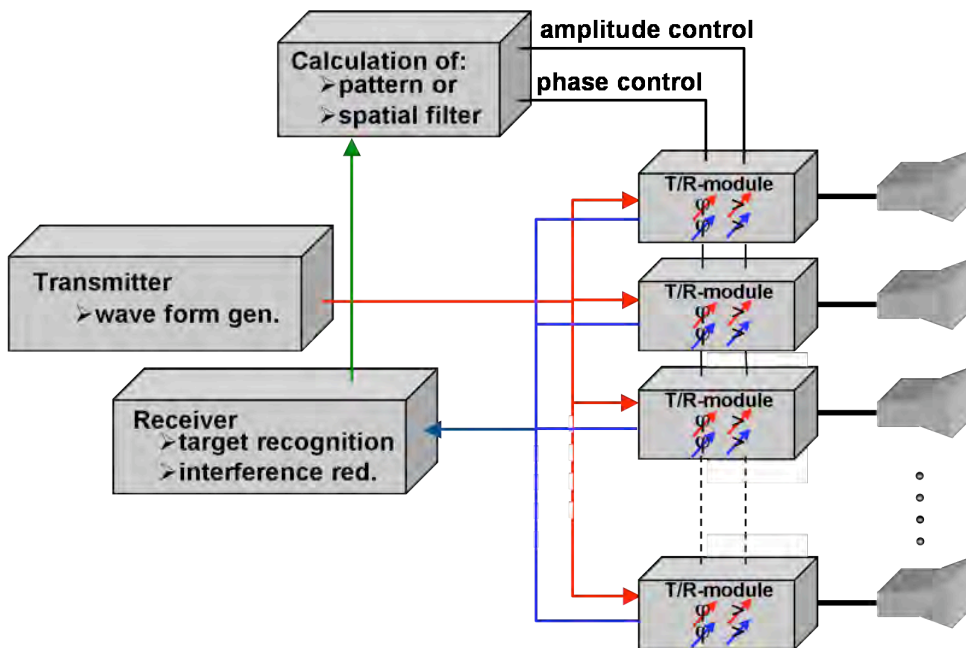


Figure 9.2 Single channel Phased Array.

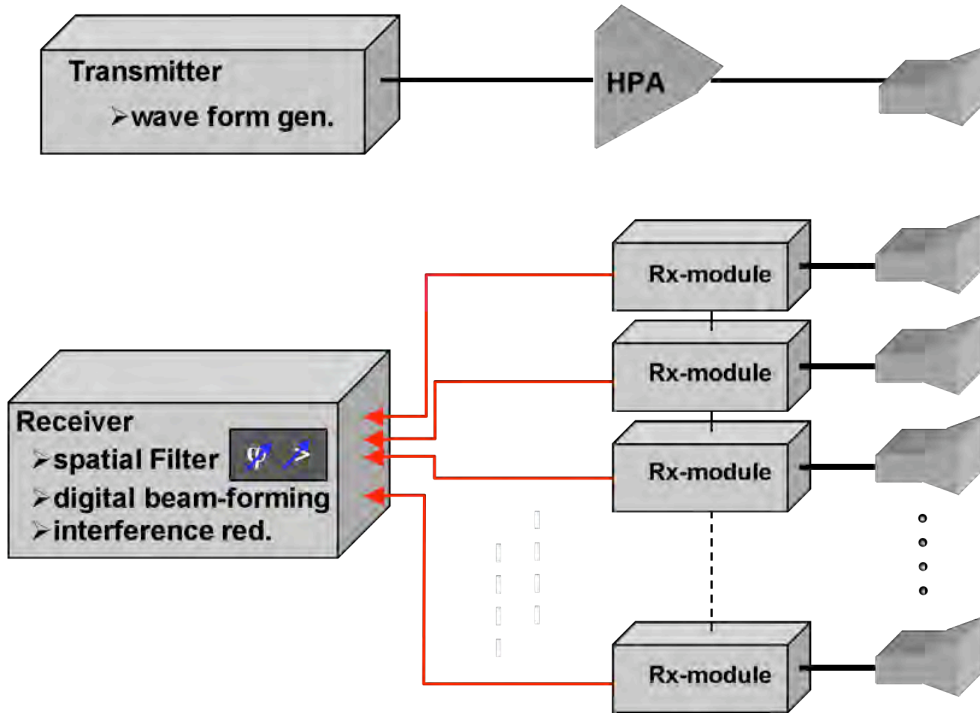
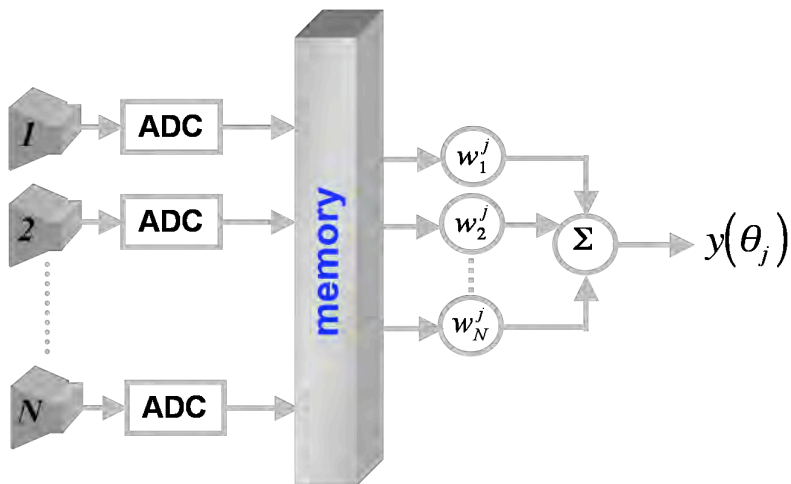


Figure 9.3 Digital Beam-forming on receive only.



- separate A/D-converter for each antenna element/sub array
- storage of all received signals
- digital processing of the beam-forming
- no T/R-Modules are required
- multiple beams can be processed simultaneously

Figure 9.4 Digital Beam-forming characteristics.

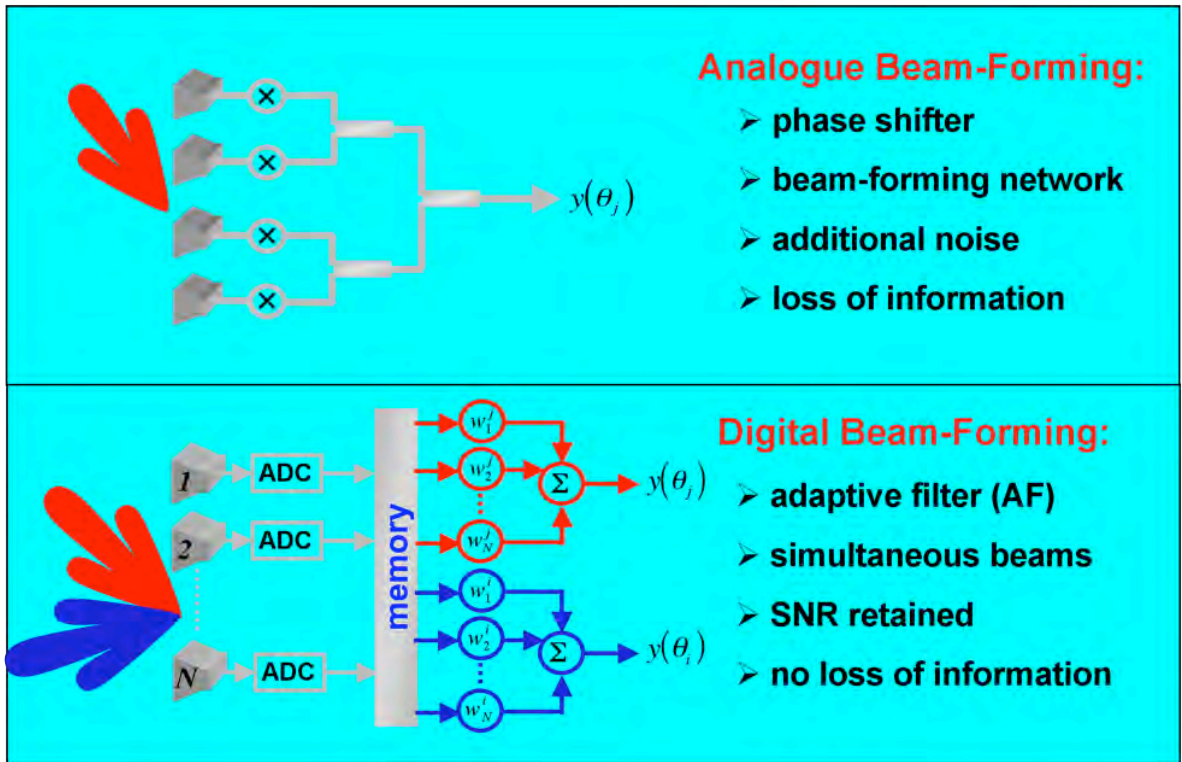


Figure 9.5 Comparison of analog and Digital Beam-forming.

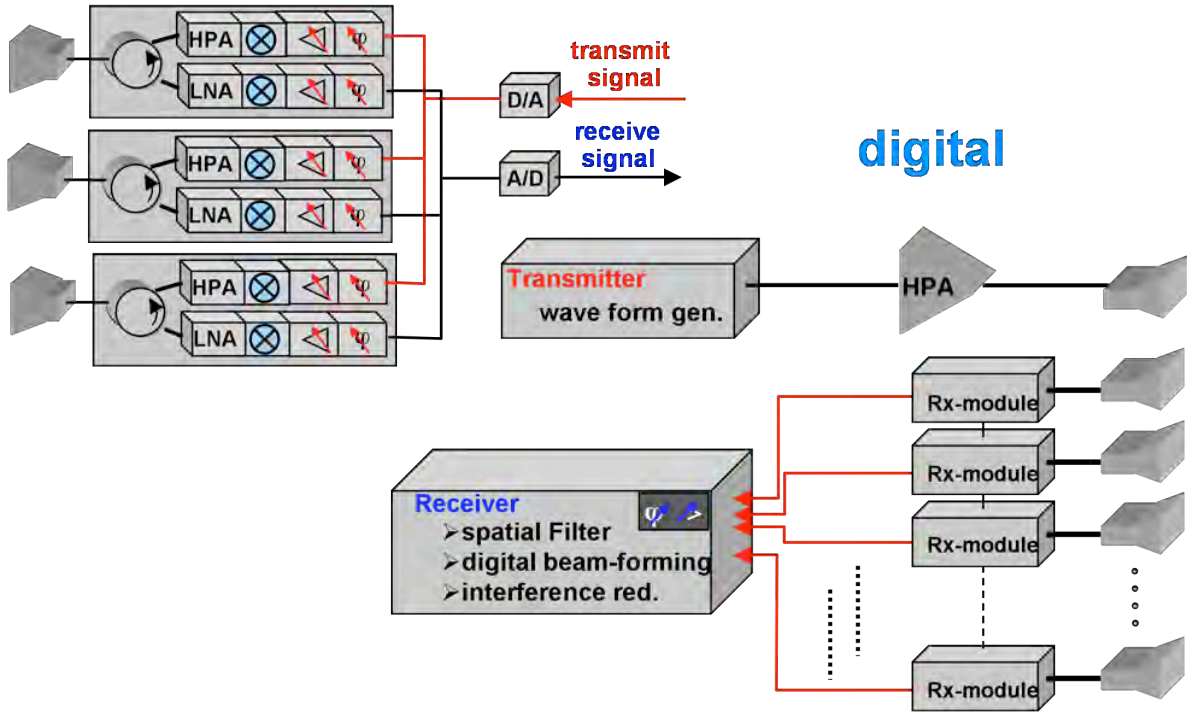


Figure 9.1 Comparison of analog and Digital Beam-forming system concepts.