

Chapters 9.3-9

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Modulation Schemes not Requiring Coherent References

- In this section, now we consider two modulation schemes that you do not need to require the acquisition of a local reference signal in phase coherence with the received carrier.

Differential Phase-Shift Keying (DPSK)

- The implementation of a such a scheme presupposes two things;
 - 1 The unknown phase perturbation on the signal varies slowly that the phase is constant from one signalling interval to next.
 - 2 The phase during a given signalling interval bears a known relationship to the phase during the preceding signalling interval bears a known relationship to the phase during the preceding signalling interval.

Table 9.3 Differential Encoding Example

Message sequence:		1	0	0	1	1	1	0	0	0
Encoded sequence:	1	1	0	1	1	1	1	0	1	0
Reference digit:	↑									
Transmitted phase:	0	0	π	0	0	0	0	π	0	π

Comparison of Digital Modulation Systems



Multipath Interference



Equalization



Equalization by Zero Forcing

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Equalization by Minimum Mean-Squared Error



Tap Weight Adjustment (LMS Algorithm)

