



SNS COLLEGE OF TECHNOLOGY

An Autonomous Institution
Coimbatore-35



Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A+' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

19ECB212 – DIGITAL SIGNAL PROCESSING

II YEAR/ IV SEMESTER

UNIT 5 – DSP APPLICATIONS

TOPIC – APPLICATION OF ADAPTIVE FILTERS TO EQUALIZATION

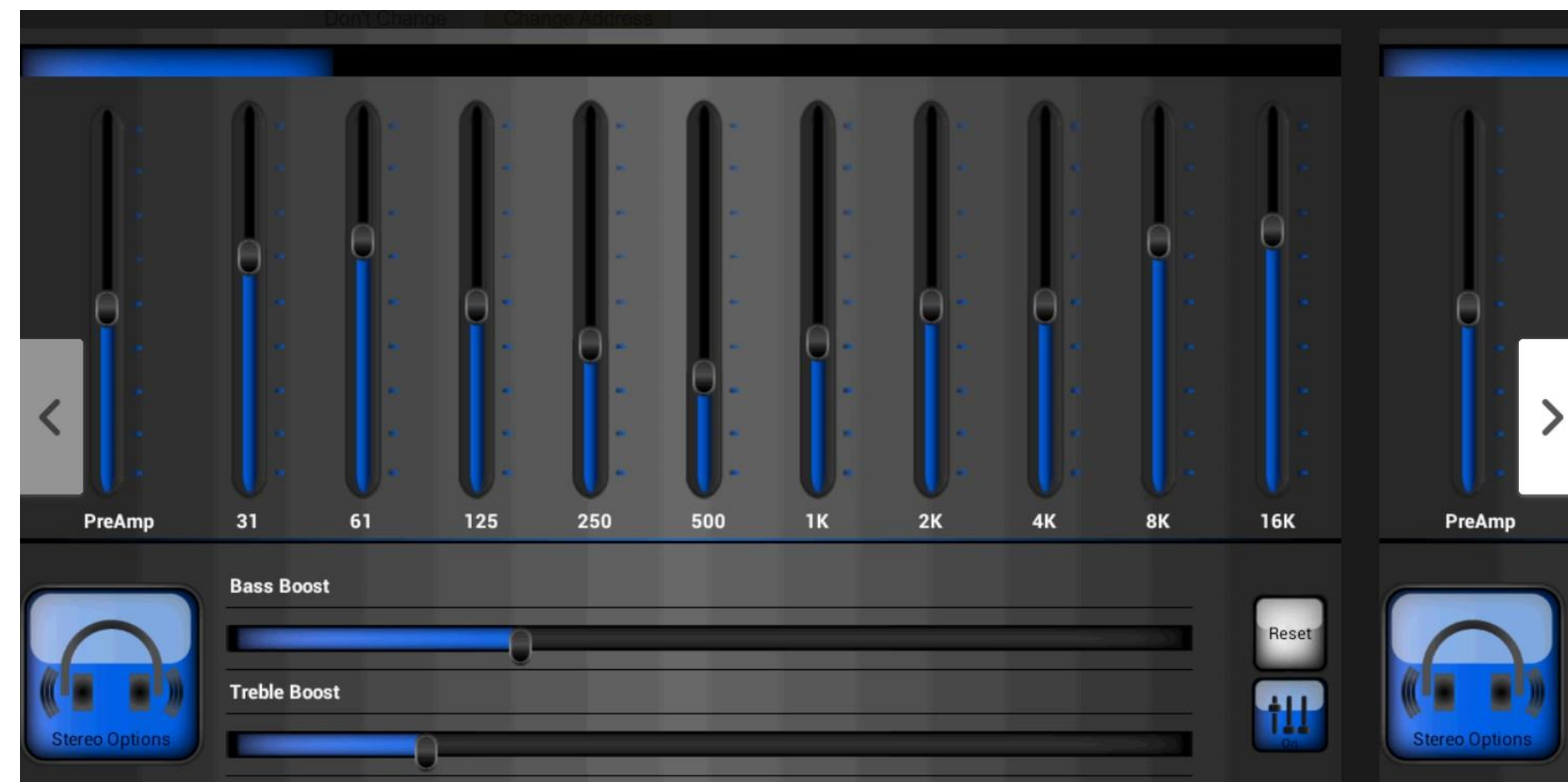


ADAPTIVE FILTERS FOR EQUALIZATION



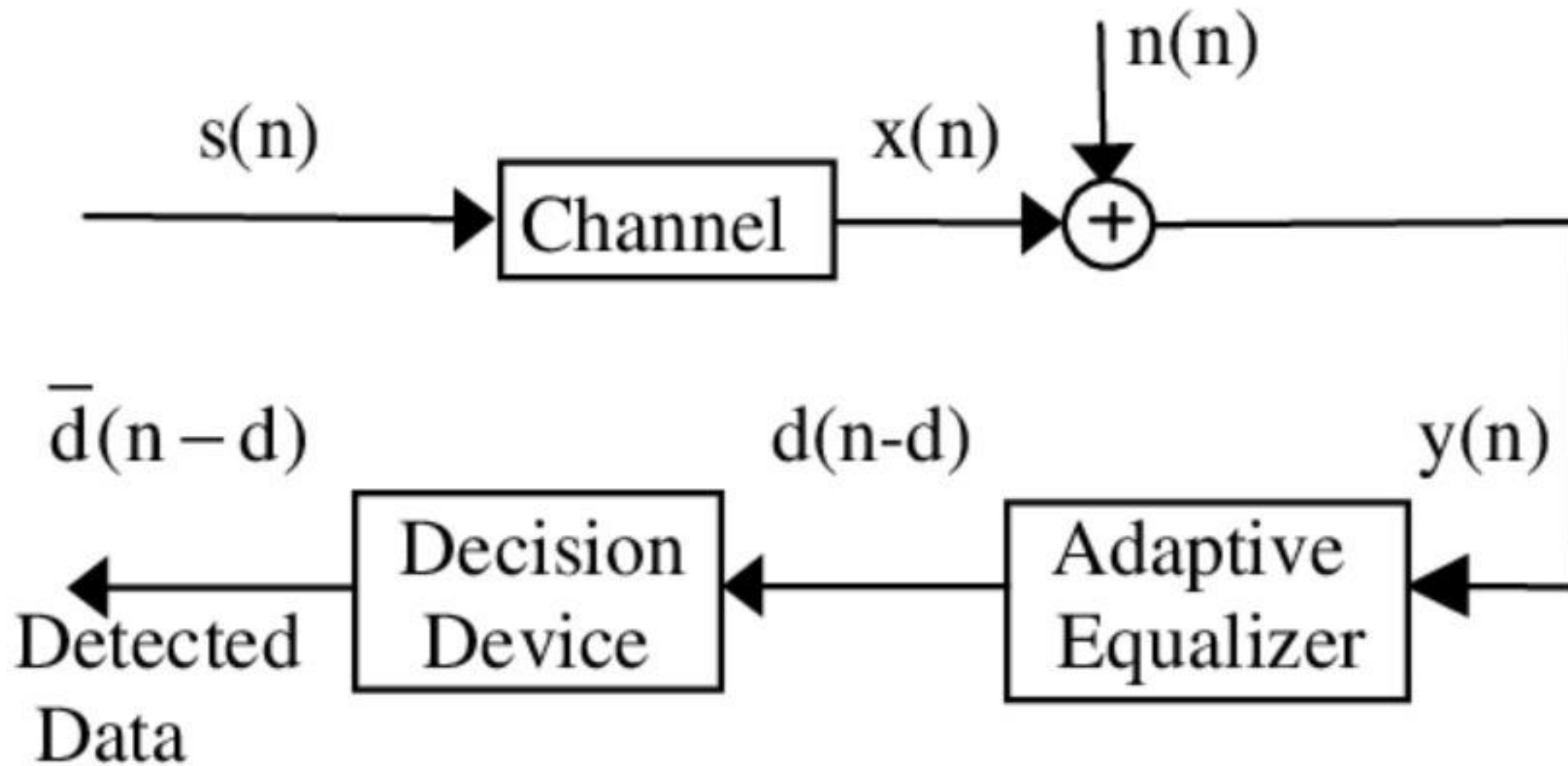
- **ADAPTIVE EQUALIZER:**

- An adaptive equalizer is an equalizer that automatically adapts to time-varying properties of the communication channel.
- This process is called adaptive equalization.
- The filter used for this process is Adaptive filter.





ADAPTIVE EQUALISER





APPLICATIONS OF ADAPTIVE FILTERS



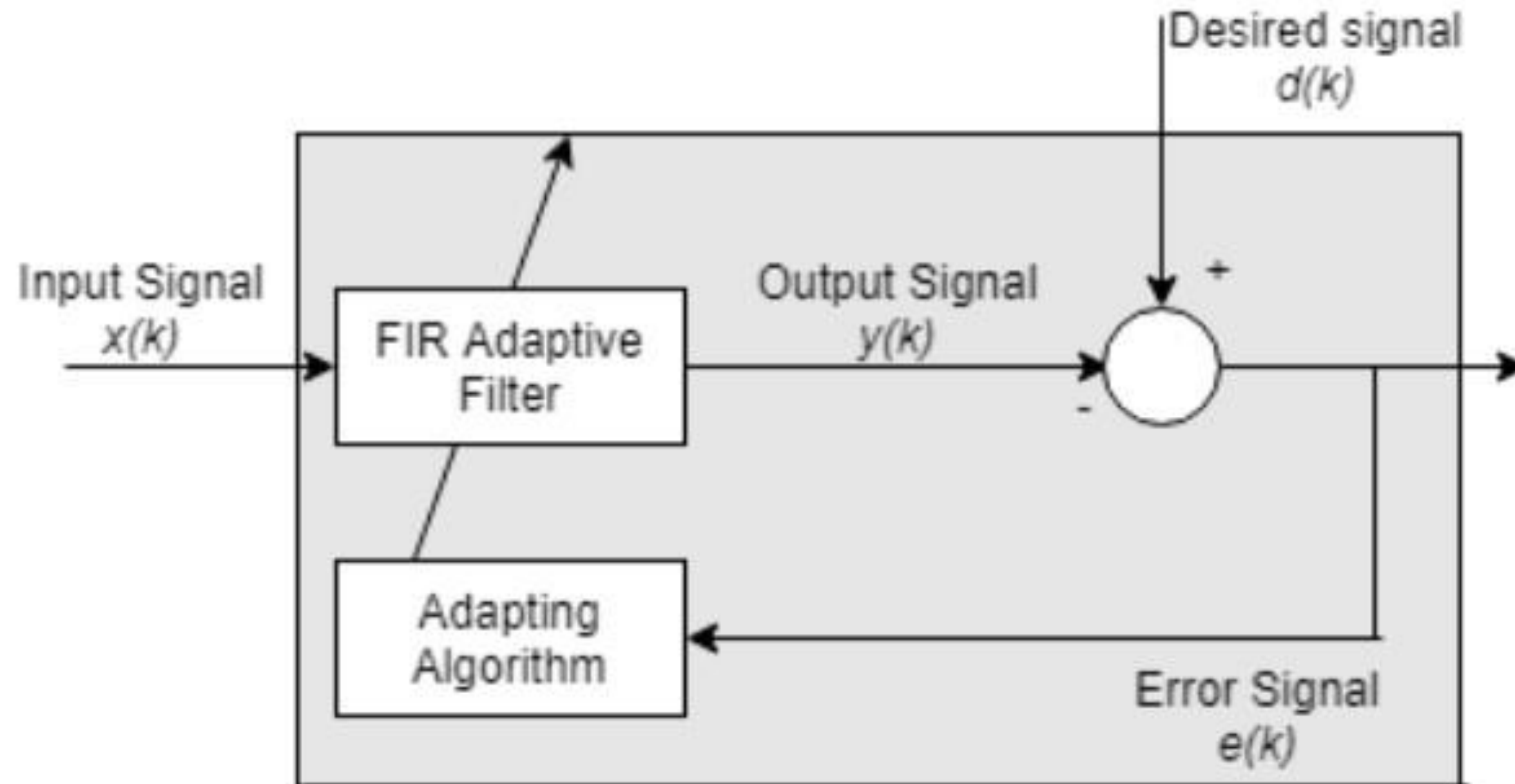
- **SYSTEM IDENTIFICATION:**

Using an Adaptive Filter we can identify an unknown system, such as the response of an unknown communications channel or the frequency response of an auditorium, to pick fairly divergent applications.

Other applications include echo cancellation and channel identification.

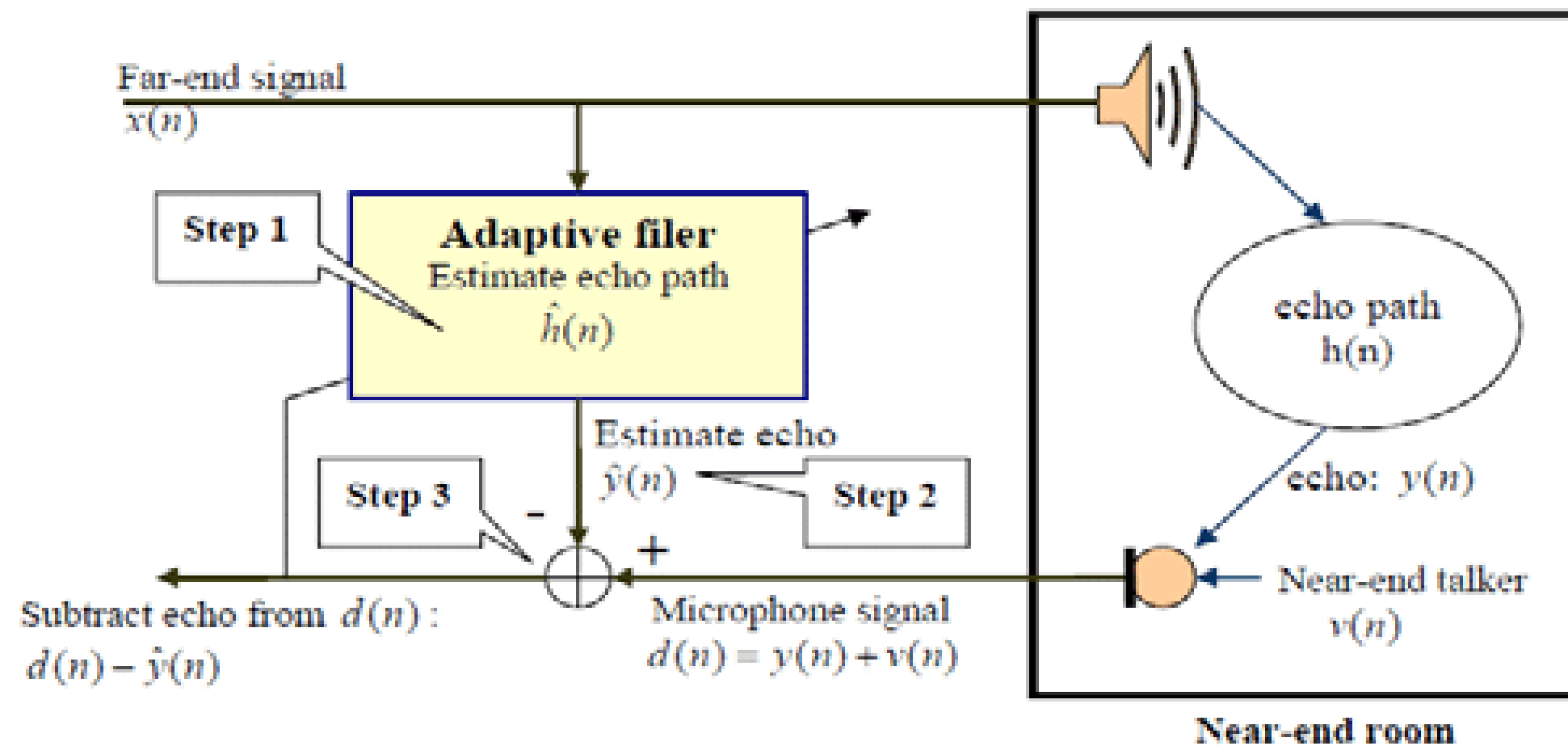


APPLICATIONS OF ADAPTIVE FILTERS





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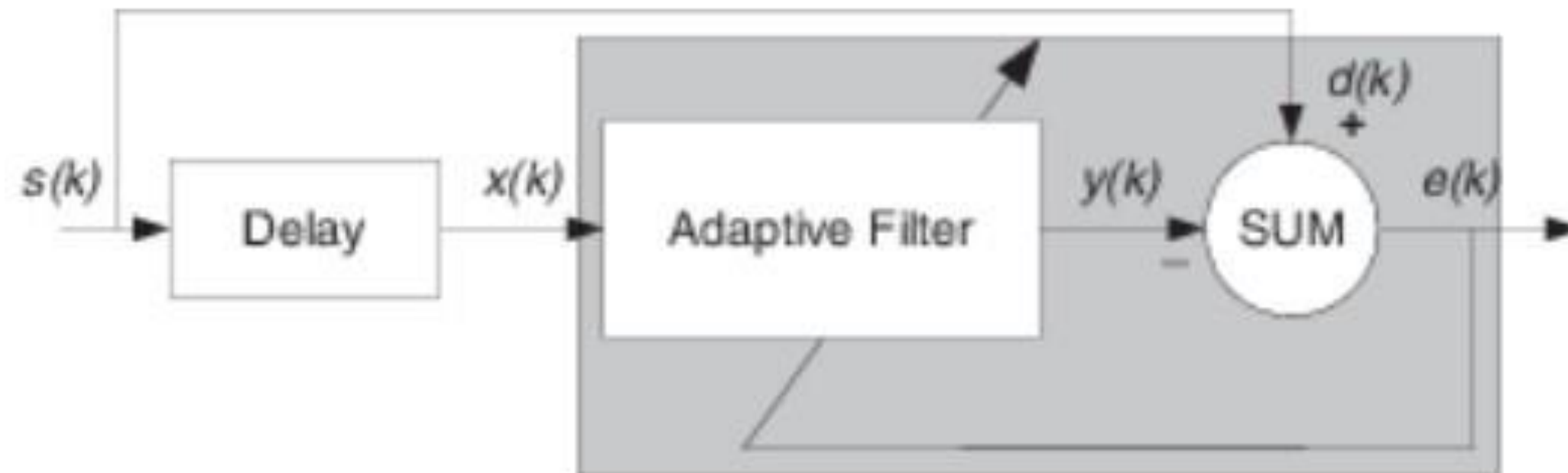


APPLICATIONS OF ADAPTIVE FILTERS



- **PREDICTION - - Predicting Future Values of a Periodic signal:**

Predicting signals requires that you make some key assumptions. Assume that the signal is either steady or slowly varying over time, and periodic over time as well.



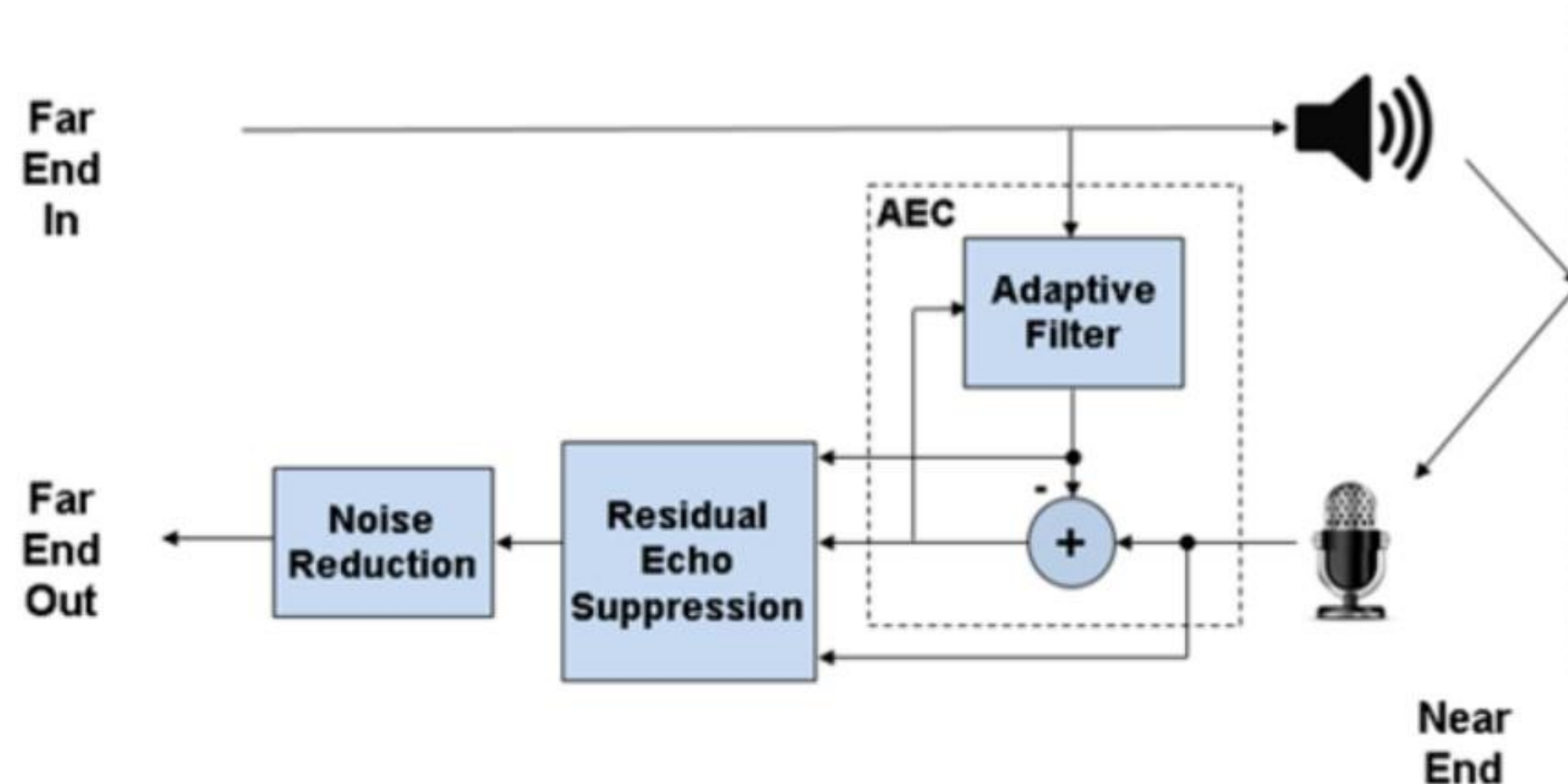


APPLICATIONS OF ADAPTIVE FILTERS



- **NOISE OR INTERFERENCE CANCELLATION:**

In noise cancellation, adaptive filters let you to remove noise from the signal in real time.





THANK YOU