

KNOWLEDGE PROBE 4: Applications of Analog-to-Digital Converters Data Conversion Part 2

Learning Objectives

1. Explain the concepts of data conversion.
 2. Describe a typical data acquisition system.
 3. Describe three common applications for ADCs.
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1. Most of the digital processing of the radio signal in the receiver is defined by
 - a. A high speed digital switching circuit
 - b. Digital data fed to a DAC
 - c. Outputs of the ADC
 - d. Software programs running on the DSP
 2. Cell phones do not use ADCs.
 - a. True
 - b. False
 3. The two common functions performed by the DSP in a SDR receiver are
 - a. Acquisition and filtering
 - b. Conversion and feedback
 - c. Feedback and control
 - d. Filtering and demodulation
 4. The software used in a SDR resides in the
 - a. In the RAM or ROM of the DSP chip
 - b. RAM of an external PC
 - c. ROM of an embedded controller
 - d. All of the above
 5. The circuit ahead of the ADC in a data acquisition system that selects one input is called the
 - a. Multiplexer
 - b. Multiplier
 - c. Mixer
 - d. Demultiplexer
 6. What is the term used to describe the gathering of relevant data, recording it, storing it, displaying it, and processing it to get useful information about a system?
 - a. Data acquisition
 - b. Digitize
 - c. Feedback
 - d. Sampling



7. Why is the analog signal amplified and filtered in a typical digital transmitter (TX)?
 - a. Boost the signal level prior to its application
 - b. Prevent aliasing
 - c. Recover modulation
 - d. Reduce the number of bits needed

8. What is the binary word that selects which input is to be passed to the output and the ADC called?
 - a. Address
 - b. Binary shift key
 - c. DSP
 - d. MUX