Digital communications

Sociology, Communication

OBSERVATIONThe modicom 1 board, first in my observation is the power input these are the electrical input connections necessary to power the module. The LJ Technical Systems' " I. C. Power 60" or " System Power 90" is the recommended power supplies. Then second is the sampling control logic is the circuitry generates the timing and control signals that sample the input waveform, and also creates a sinusoidal 1 kHz signal for use during the MODICOM 1 practical exercises.

It is recommended that this signal is used for most of the experiments, as you will find that it is difficult to synchronize more than one oscilloscope trace when the input comes from an external source. Then third is the sampling circuit is the signal at the ANALOG INPUT socket is sampled at a rate, and for duration, which depends on the applied sampling control signal. Then fourth is the second order low pass filter this is a filter having a 3. 4 kHz bandwidth.

Then lastly is the fourth order low pass filter is similar to the Second Order Low Pass Filter but has a steeper cut off gradient (represented by the graph on the board). CONCLUSION MODICOM 1 incorporates and on-board waveform generator that can be selected to provide a 1 kHz sine wave. An on-board pulse generator, giving a choice of 5 discrete sampling frequencies and 9 discrete duty cycles, is also provided. These on-board signal sources are phase locked, ensuring that the sampled waveforms appear stationary when observed on an oscilloscope. OBSERVATION

In the experiment, we study the Modicom 1 Demonstration. The purpose of this is to understand the functions of each block using input analog signal. We connect the supplies to the board; we ensure sampling control board “

internal” position. The duty cycle selector position is in 5. We link 1 kHz sine wave output to analog input. Then we turn on the power supply. Ensuring that all the connection are connected properly. We need to display the input sine wave and sample output and we link the sample output to the input of fourth order low pass filter.

We display the output of the fourth order low pass filter. Successively press the frequency selector and observe the effect on the signal. CONCLUSION The sample and hold circuit stores electric charge in a capacitor and contains at least one fast FET switch and at least one operational amplifier. To sample the input signal the switch connects the capacitor to the output of a buffer amplifier. The buffer amplifier charges or discharges the capacitor so that the voltage across the capacitor is practically equal, or proportional to, input voltage.

In hold mode the switch disconnects the capacitor from the buffer. The capacitor is invariably discharged by its own leakage currents and useful load currents, which makes the circuit inherently volatile, but the loss of voltage (voltage drop) within a specified hold time remains within an acceptable error margin. Therefore The sample and hold circuits are essentially used in linear systems. In some kinds of analog-to-digital converters, the input is often compared to a voltage generated internally from a digital-to-analog converter (D-A-C).

The circuit tries a series of values and stops converting once the voltages are " the same" within some defined error margin. If the input value was permitted to change during this comparison process, the resulting conversion would be inaccurate and possibly completely unrelated to the

true input value. Such successive approximation converters will often incorporate internal sample and hold circuitry. In addition, sample and hold circuits are often used when multiple samples need to be measured at the same time. Each value is sampled and held, using a common sample clock.