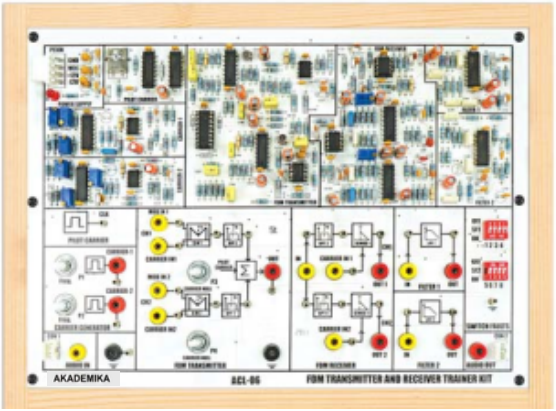
ACL-FDM

Frequency Division Multiplexing Trainer Kit



FEATURES

- Complete Frequency Division Multiplexing Transmitter and Receiver Trainer on a single platform.
- Includes two independent carrier channels for FDM signal generation.
- Provides modulation, filtering and summing stages for forming the composite FDM signal.
- Built-in pilot carrier section for studying carrier/reference transmission.
- Includes fault-switch provisions for troubleshooting and practical fault-analysis exercises.
- Designed for hands-on study of FDM transmission, channel separation and signal recovery.

SPECIFICATIONS

Carrier generator

- Sub carrier : 1KHz ~ 20KHz and 1KHz ~ 30KHz With adjustable amplitude of 0~2 Vpp
- Pilot carrier : 256 KHz
- Transmitter : High frequency transmission using DSB
- Multiplexing : Frequency division multiplexing
- Channel : 02

Band pass filter

- Pass band : Filter 1 and 3 frequency range 8 ~12 KHz with fc 10 KHz filter 2 and 4 frequency range 18 ~ 22 KHz with fc 20 KHz

AM /DM modulator

- Modulation : Amplitude modulation double side band
- Receiver : Amplitude demodulation of DSB
- De-multiplexing : Frequency division de-multiplexing

Low pass filter

- 4 order butter worth filter

Switch faults

- 8 Switch faults are provided on board to study different effects on circuit

Interconnection

- 2 mm banana socket

Test points

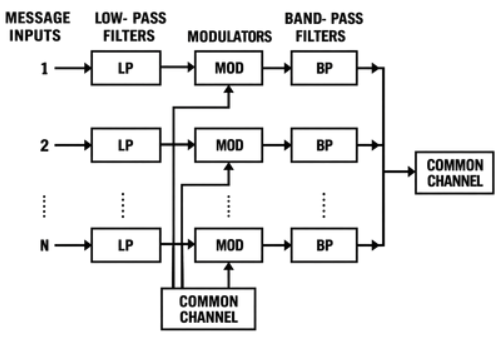
- 25 test points are provided to observe various intermediate signals

Power supply

- GND, +5V, +12V, -12V

EXPERIMENTS

- To study frequency response of band pass filters
- Study of DSB modulation
- To study the operation of frequency division multiplexing
- Study of DSB demodulation
- To study the operation of frequency division demultiplexing
- To study the effects of out of band signaling
- To study effect of switch faults
- To study voice communication through FDM (optional)



A) FDM TRANSMITTER