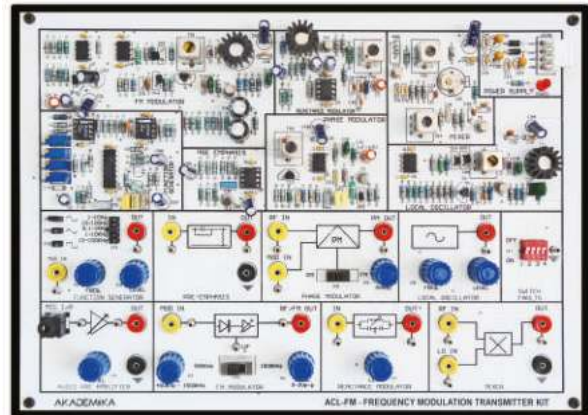


ACL - FM

Frequency Modulation Transmitter Kit



FEATURES

- On-board synchronous function generator of 1Hz ~ 100 KHz frequency
- FM Modulator (quantity 2)
- Works at center frequency of 455 KHz
- Varactor Modulator
- Reactance Modulator
- Pre-emphasis
- PM Modulator
- Mixer
- Audio pre-amplifier with adjustable gain

SPECIFICATIONS

Synchronous Function Generator

- Waveform : Sine, Triangular, Square
- Amplitude : 0 to 2V-p-p Variable
- Frequency : 1Hz to 10Hz
: 10Hz to 100Hz
: 100Hz to 1KHz
: 1KHz to 10KHz
: 10KHz to 100KHz

Audio input

- Audio preamplifier with microphone

FM modulators

- Operating frequency : Adjustable from 400KHz ~ 500 KHz
- Input amplitude : 0.1Vpp with integration circuit for indirect frequency modulation
- Varactor Modulator with Carrier frequency adjustment
- Reactor Modulator with Variable Carrier Frequency

Pre-Emphasis Circuit - Time period of 50us

PM Modulator

- Operating frequency : Adjustable from 400 KHz ~ 500 KHz
- Input amplitude : 0.5 Vp-p with integration circuit for indirect frequency modulation

Mixer (frequency converter)

- Dual gate MOSFET inputs : Local oscillator and RF signal
- Output IF frequency : 455 KHz adjustable
- IF filter : Dual tune LC
- Transmitter output : 455 KHz frequency

Switch faults

- 4 switch faults are provided on board to study different effects on circuit

Interconnection

- 2mm PCS2 socket

Test points

- Test points are provided on board to observe intermediate signals

Power supply

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

(Dual output terminals)

EXPERIMENTS

- Study of Varactor Modulator
- Study of Phase Modulation
- Voice transmission on various modulation methods
- Effect of switch faults
- Study of Frequency Modulation
- Study of Pre-Emphasis circuit.