

ACL - 04 FREQUENCY DEMODULATION RECEIVER KIT



ACL-04 facilitates students to learn a wide variety of frequency demodulator circuits & works with ACL 03.

FEATURES:

- Frequency Demodulator:
- Foster Seeley Detector.
- Ratio Detector.
- Phase Locked Loop Detector.
- Quadrature Detector.
- Detuned Resonance Detector.
- De-Emphasis
- Limiter.
- Low Pass Filter.
- Audio Amplifier.
- Switch Faults.

TECHNICAL SPECIFICATIONS:

FOSTER-SEELEY DETECTOR:

Operating Frequency : Adjustable from 400KHz to 500KHz.
Input Amplitude : 1Vp-p.

RATIO DETECTOR:

Operating Frequency : Adjustable from 400KHz to 500KHz.
Input Amplitude : 1Vp-p.

PHASE LOCK LOOP DETECTOR:

Operating Frequency : Adjustable from 400KHz to 500KHz.
Input Amplitude : 1Vp-p.

PHASE DETECTOR AND FM QUADRATURE DETECTOR:

Operating Frequency : Adjustable from 400KHz to 500KHz.
Input Amplitude : 1Vp-p.

DETUNED RESONANCE DETECTOR:

Operating Frequency : Adjustable from 400KHz to 500KHz.
Input Amplitude : 1Vp-p.
De-Emphasis Circuit : Time period of 50uS.

AMPLITUDE LIMITER:

Operating Frequency : 455KHz.

Input Amplitude : From 0.5 to 5Vp-p.
Output Limited Amplitude : 1.5Vp-p.

LOW PASS FILTER:

4th Order Butterworth Filter.
Cut-Off Frequency : 3.4KHz.

AUDIO OUTPUT:

Amplifier with speaker.
Audio Amplifier Gain : 20dB.

SWITCH FAULTS: 4 Switch Faults are provided on board to study different effects on circuit.

INTERCONNECTION: 2 mm Banana Socket.

TEST POINTS: 18 Nos. Test points are provided on board to observe intermediate signals.

POWER SUPPLY: GND, +5V, +12V, -12V.

LIST OF EXPERIMENTS:

- Study of FM demodulators.
- Foster Seeley detector.
 - Ratio detector.
 - Phase locked loop detector.
 - Quadrature detector.
 - Detuned Resonance Detector.
- Study of Phase Demodulator.
- Study of De-Emphasis Circuit.
- Study effect of Pre-Emphasis and De-Emphasis on FM Demodulator.
- Voice reception by various demodulation methods.
- Effect of Switch Faults.

ACCESSORIES:

Uses accessories provided with **ACL-03**

