

ACL - 02 AMPLITUDE DEMODULATION RECEIVER KIT



ACL-02 is a Super-heterodyne Receiver with two on-board detectors, an Envelope Detector for Demodulation of Double Side-Band AM signal and a Product Detector for demodulation of Single Side Band AM signal. ACL-02 is capable of receiving and demodulating the Single-Side Band and Double-Side Band signal transmitted from ACL-01. ACL-02 can also receive Double-Side Band AM broadcast signals in the AM wave band.

FEATURES:

- Super-Heterodyne AM Receiver with AGC.
- RF Amplifier.
- Beat Frequency Oscillator
- Mixer.
- 1st IF and 2nd IF Amplifier.
- Envelope Detector.
- Product Detector.
- Audio Amplifier.
- Reception of AM Signal via Antenna.
- Switch Faults.

TECHNICAL SPECIFICATIONS:

Superheterodyne Receiver:

Frequency Range : 600KHz to 1.2MHz.
Intermediate Frequency : 455KHz.
Inputs : RF signal.
Output IF Frequency : 455KHz adjustable.

RF AMPLIFIER:

Range : 600 KHz to 1650 KHz.
Gain : Adjustable

Mixer (Frequency Converter):

Dual Gate MOSFET Input : Local Osc. & RF
Output Frequency : 455KHz adjustable
FI Filter : Dual Tune LC.

LOCAL OSCILLATOR:

Output Signal : Sine wave
Frequency : From 900KHz to 2.1MHz. Gang Tuned
Amplitude : Adjustable from 0 to 2Vp-p.
Output Impedance : 50 Ohm.

BEAT FREQUENCY OSCILLATOR

Frequency : Center frequency of 455 KHz
Level : 0 to 2 Vp-p

1st IF and 2nd IF AMPLIFIER:

Central Frequency : 455KHz.
Load Impedance : Variable R-L-C.
Gain : Automatic Gain Control. Gain - 43dB

DIODE ENVELOPE DETECTOR:

Detection of the positive and negative envelope with variable RC filter DSB.

PRODUCT DETECTOR:

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

AUDIO OUTPUT:

Amplifier with Headphone.
Audio Amplifier Gain : 20dB.

RECEIVING MEDIA:

MW Coil Antenna and via cable.

INTERCONNECTION : 2 mm Banana Socket.

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

TEST POINTS: 19 Nos. Test points are provided on board to observe intermediate signals.

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

LIST OF EXPERIMENTS:

- Study of Double Sideband AM reception using Envelope Diode Detector.
- Study of Single Sideband AM reception using Product Detector.
- Study of Image Frequencies.
- Study of Sensitivity and Selectivity of Receiver.
- Study of adjustment of receiver tuned circuits.
- Voice reception using DSB/ SSB AM receiver (Superheterodyne Receiver).
- Effect of Switch Faults.

ACCESSORIES:

Uses accessories provided with **ACL-01**

