

ANALOG COMMUNICATION

ACL - 01 AMPLITUDE MODULATION TRANSMITTER KIT



ACL-01 has an on-board Audio Oscillator as an Analog signal source, which is used as a modulating signal. Alternatively facility is also provided for connecting an external audio-frequency signal as modulating input signal. On-board Double-Sideband Modulator is provided to generate a Double Side Band AM signal with a carrier frequency upto 1.5MHz. Also, on-board Single-Side Band Modulator is provided to generate a Single-Side Band AM signal with the help of Band Pass Filter. These modulated signals may be relayed to ACL-02 either by means of screened cable or the on-board antenna.

FEATURES:

- On-Board Audio Oscillator.
- Amplitude Modulation.
- Double Sideband AM Generation.
- Single Sideband AM Generation (USB/ LSB).
- Colpitt's Oscillator
- VCO
- Audio Pre-Amplifier.
- Ceramic Filter.
- On- Board Antenna.
- Switch Faults.

TECHNICAL SPECIFICATIONS:

Sine Wave Generator:

Frequency : 100Hz to 10KHz.
Amplitude : 0 to 2 Vp-p.

Audio Input:

Audio Pre-amplifier with Microphone and with adjustable output level.

VOLTAGE CONTROLLED OSCILLATOR :

Output Signal : Sine Wave.
Frequency Range : 1) 400KHz to 500KHz.
2) 400KHz to 1500KHz
Amplitude : 0 to 2Vp-p.
Output Impedance : 50 Ohm.

COLPITT'S OSCILLATOR:

Frequency : 1MHz .
Amplitude : 0 to 2 Vp-p.

AM/DSB/SSB MODULATOR : (Balance Modulator 1 & 2)
Modulation : Amplitude Modulation.
: Double Side Band.
: Single Side Band
(USB, LSB)

Carrier Input : 1-1000 KHz.
Modulating Input : 0.1-100 KHz.
Carrier Null : Adjustable.
Output Amplitude : Adjustable.

BAND PASS FILTER:

Central Frequency : 1.455MHz.
Bandwidth : 10 KHz +/- 3KHz.

CERAMIC FILTER:

Central Frequency : 455KHz.
Bandwidth : 10 KHz +/- 3KHz.

OUTPUT AMPLIFIER:

Range : 600 KHz to 1650 KHz.
Gain : Adjustable

TRANSMITTING MEDIA: MW Coil Antenna and via cable.

TEST POINTS: 17 Nos. Test points are provided on board to observe intermediate signals.

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

INTERCONNECTION : 2 mm Banana Socket.

POWER SUPPLY : GND, +5V, +12V, -12V. (Dual output terminals)

LIST OF EXPERIMENTS:

- Study of Double Sideband AM Generation.
- Study of Single Sideband AM Generation.
- Study of adjustment of Transmitter tuned circuit.
- Voice transmission with DSB/SSB AM Transmission.
- Effect of Switch Faults.

ACCESSORIES:

Red Short Links : 14 Nos.
Red Long Links : 04 Nos.
Crocodile Links : 02 Nos.
Extra Jumper Caps : 03 Nos.
Microphone & Headphone : 01 No
Tunning Tool : 01 No.
Experimental Manual : 01 No.
Circuit Description Manual : 01 No.
Power Supply Double Connector : 01 No.

OPTIONAL:

e-Manual Interactive Multimedia Software & Manual



FALCON

Unit-128, Hema Ind. Est., Sarvoday Nagar,
Jogeshwari (East), Mumbai - 400 060. INDIA.
Tel: 91-22-28348429 / 28248665 / 28346339
Fax: 91-22-28370165.
Email: falcon@falconindia.biz
Web: www.falconindia.biz