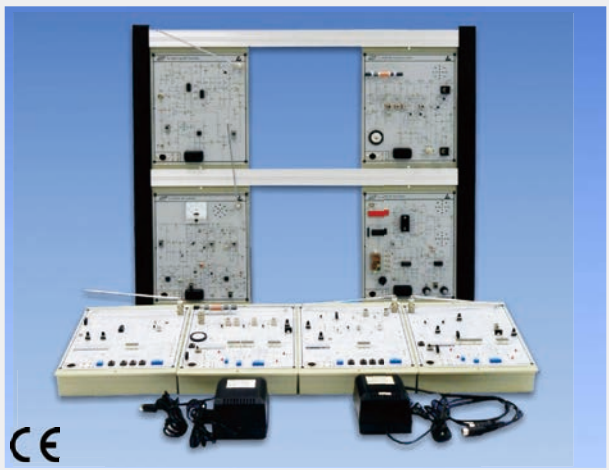
KL-900C

AM/FM/ASK/FSK Transmitter & Receiver System



The KL-900C AM/FM/ASK/FSK Transmitter and Receiver System is a comprehensive and self-contained system and is suitable for carrying out AM/ASK and FM/FSK transmission experiments.

The complete system contains KL-900C1 and KL-900C2, eight separated modules including:

- AM transmitter & receiver modules
- FM transmitter & receiver modules
- ASK/AM transmitter & receiver modules
- FSK/FM transmitter & receiver modules

Features

1. System consists of ASK/AM transmitter and receiver, and FSK/FM transmitter and receiver.
2. Both AM & FM modules are equipped with 8-bit DIP switch for troubleshooting experiments.
3. Comprehensible experiment manual is provided.

KL-900C1

Specifications

1. KL-93061A AM/DSB Transmitter
   (1) AM transmitter for producing 1MHz
   (2) 8-bit DIP switch for circuits fault simulations
2. KL-93062A AM Transistorized Radio
   (1) AM receiver frequency range : 535KHz ~1605KHz
   (2) Intermediate frequency : 455KHz
   (3) 8-bit DIP switch for circuits fault simulations
3. KL-93063A FM Transmitter
   (1) FM transmitter for producing 10.7MHz intermediate frequency
   (2) 8-bit DIP switch for circuits fault simulations
   (3) Digital logic probe : 1Hz~90MHz
4. KL-93064A FM Stereo Radio
   (1) FM receiver frequency range : 88MHz~108MHz
   (2) Frequency shown by 7 segment LED display
   (3) 8-bit DIP switch for circuits fault simulations

List of Experiments

AM Experiments

1. Sine Wave / Voice Modulator
2. Modulator Measurement
3. DSBSC / Sine Wave Pattern
4. Modulator Percentage
5. Trapezoid Pattern
6. Voice / Antenna Adjust
7. First IF Amplifier
8. Second IF Amplifier
9. Frequency Transmitter/Receiver & Modulator/Demodulator
10. Music Transmitter & Receiver

FM Experiments

1. Voltage Measurements of Varactor Diode
2. Crystal Oscillator Measurements
3. Frequency Multiplier Adjustments (For Second Harmonic)
4. RF Amplifier Tuning Circuit Adjustments (For Second Harmonic)
5. Frequency Multiplier Adjustments (For Third Harmonic)
6. RF Amplifier Tuning Circuit Adjustments (For Third Harmonic)
7. Audio Amplifier Measurements
8. Reference Oscillator Measurements
9. FM IF Amplifier
10. Counter
11. Music Transmitter & Receiver

Accessories(KL-98003A)

1. CI -18001 Power Supply x 2 pcs
   (1) Output : +5V/0.5A, -5V/0.2A, ±12V/0.2A
   (2) Input : AC 110V/220V
2. Connection Leads and Plugs x 1 set
3. Telescopic Antenna x 3 pcs
4. Mini-microphone x 2 pcs
5. Experiment Manual
6. Digital Logic Probe x 1 set

KL-900C2

● Specifications

1. KL-93065 ASK/AM Transmitter
   (1) Amplitude-shift keying (ASK) transmitter
   Carrier frequency : 1.0MHz & 1.6MHz
   (2) Data transmission format :
   a. Start bit
   b. 64-bit encoded data : 8-bit data encoded by 8-bit spread spectrum setting
   c. Stop bit
   (3) Data transmission :
   a. Direct modulation
   b. Manchester encoding
   (4) Data rate :
   a. 100Hz / 62.5Hz
   b. 160Hz / 100Hz
   c. 1.6K / 1KHz
   (5) AM audio modulation signal :
   Audio input : mono microphone input

2. KL-93066 ASK/AM Receiver
   (1) AM receiver frequency range : 535KHz ~ 1605KHz
   (2) Intermediate frequency : 455KHz
   (3) Data receive mode :
   a. Direct demodulation
   b. Manchester decoding
   (4) Data rate:
   a. 100Hz / 62.5Hz
   b. 160Hz / 100Hz
   c. 1.6K / 1KHz
   (5) AM audio demodulation signal :
   Audio output : 0.2W 8Ω speaker

3. KL-93067 FSK/FM Transmitter
   (1) Frequency-shift keying (FSK) transmitter, is able to produce 10.7MHz intermediate frequency.
   (2) Data transmission format :
   a. Start bit
   b. 64-bit encoded data : 8-bit data encoded by 8-bit spread spectrum setting
   c. Stop bit
   (3) Data transmission :
   a. Direct modulation
   b. Manchester encoding
   (4) Data rate :
   a. 100Hz / 62.5Hz
   b. 160Hz / 100Hz
   (5) FM audio modulation signal :
   Audio input : Mono microphone input
   (6) Digital logic probe : 1Hz~90MHz

4. KL-93068 FSK/FM Receiver
   (1) FM receiver frequency : 10.7MHz
   (2) Data receive mode :
   a. Direct demodulation
   b. Manchester decoding
   (3) Data rate:
   a. 100Hz / 62.5Hz
   b. 160Hz / 100Hz
   (4) FM audio demodulation signal :
   Audio output : 0.2W 8Ω speaker

● List of Experiments

ASK/AM Experiments

1. RF Amplifier Adjustment(Underlined Data are Reference Values)
2. Digital Data Coding (CDMA & Manchester Encoding)
3. Calibration of Transmitter and Receiver
4. Transmitter and Receiver Communication Experiment
5. Analog Transmission of Digital Signals
6. Analog Signal Transmitted by Analog Transmission
7. Music Signal Transmission

FSK/FM Experiments

1. Voltage Measurement of Varactor Diode
2. Crystal Oscillator Frequency Measurement
3. Frequency Multiplier Adjustment (Doubler)
4. Frequency Multiplier Adjustment (Tripler)
5. RF Amplifier Tuned Circuit Adjustment
6. Digital Data Transmission (Direct Sequence & Manchester Encoding)
7. Audio Amplifier Adjustment
8. Calibration of RF Amplifier
9. Receiver Frequency Detector Adjustment
10. Decoding Sequence Adjustment
11. Digital Data Transmission and Receiving (Direct Sequence & Manchester Encoding)
12. Digital Data Transmission and Receiving Example
13. Analog Transmission of Digital Signals
14. Analog Signal Transmitted by Analog Transmission
15. Music Signal Transmission

● Accessories(KL-98003B)

1. CI -18001 Power Supply	x 2 pcs
(1) Output : +5V/0.5A, -5V/0.2A, ±12V/0.2A	
(2) Input : AC 110V/220V	
2. Connection Leads and Plugs	x 1 set
3. Telescope Antenna	x 3 pcs
4. Mini-microphone	x 2 pcs
5. Experiment Manual	
6. Digital Logic Probe	x 1 set

KL-900C1 + KL-900C2

Storage cabinet (KL-99001)

KL-99001

Optional Accessory

Rack frame (KL-97003)

KL-97003