

WIRELESS COMMUNICATION ELECTRONICS TRAINERS

WCET-2002B



Description : Curriculum Outline:

1. Design and implementation of filters and oscillators for wireless communication.
2. Design and implementation of transceiver for analog wireless communication.
3. Design and implementation of telephone system and controllable household appliances.
4. Design and implementation of transceiver for digital wireless communication.

Features : Curriculum Objectives :

1. A complete laboratory training system.
2. Analog and digital communications.
3. Suitable for both engineer and undergraduate training.
4. Simple and easy breakdown elimination training and repairing ability training for common communication equipments.
5. Design and implementation ability training for common communication equipments.

Specification : Chapter 1 Second Order Filter Circuits

Experiment 1: Second Order Low-pass Filter Circuit

Experiment 2: Second Order High-pass Filter Circuit

Experiment 3: Second Order Bandpass Filter Circuit

Chapter 2 Oscillator Circuits

Experiment 1: Wien Bridge Oscillator Circuit

Experiment 2: Phase-shift Oscillator Circuit

Experiment 3: Colpitts Oscillator Circuit

Experiment 4: Hartley Oscillator Circuit

Experiment 5: Colpitts Crystal Controlled Oscillator Circuit

Experiment 6: Colpitts Voltage Controlled Oscillator Circuit

Chapter 3 AM/DSB Radio Transmitter

Experiment 1: Measurement of Transmitter Carrier Signal

Experiment 2: Measurement of AM Signal Waveforms

Experiment 3: Measurement of DSB-SC Modulation Signal Waveforms

Experiment 4: Measurement of AM Transmitter

Chapter 4 AM Receiver

Experiment 1: Measurement of AM Receiver Signal Waveforms

Experiment 2: Measurement of Tunable Broadcast Signal

Experiment 3: Measurement of AM Wireless Transceiver

Chapter 5 FM Transmitter

Experiment 1: Measurement of Transmitter Carrier Signal

Experiment 2: Measurement of FM Signal Waveforms

Experiment 3: Measurement of FM Transmitter

Chapter 6 FM Receiver

Experiment 1: Measurement of FM Receiver Signal Waveforms

Experiment 2: Measurement of Tunable Broadcast Signal

Experiment 3: Measurement of FM Wireless Transceiver

Chapter 7 Telephone System

Experiment 1: Observation on Ringing Signal

Experiment 2: Telephone Dialing Test

Experiment 3: Connection Between Communication Network

Chapter 8 Controllable Household Appliances

Experiment 1: Measurement of Waveform Repairing

Experiment 2: Observation on DTMF Decoder

Experiment 3: Observation on Output of Controlled Household Appliances

Experiment 4: Observation on Output of Remote Control at Close Distance

Experiment 5: Observation on Output of Remote Control at Long Distance

Chapter 9 ASK Transmitter

Experiment 1: Measurement of Transmitter Carrier Signal

Experiment 2: Measurement of Data Spread Spectrum Encoder Signal

Experiment 3: Measurement of ASK Modulation Signal Waveforms

Experiment 4: Measurement of ASK Transmitter

Chapter 10 ASK Receiver

Experiment 1: Measurement of ASK Receive Signal Waveforms

Experiment 2: Measurement of ASK Wireless Transceiver

Chapter 11 FSK Transmitter

Experiment 1: Measurement of Transmitter Carrier Signal

Experiment 2: Measurement of Data Spread Spectrum Encoder Signal

Experiment 3: Measurement of FSK Modulation Signal Waveforms

Experiment 4: Measurement of FSK Transmitter

Chapter 12 FSK Receiver

Experiment 1: Measurement of FSK Receive Signal Waveforms

Experiment 2: Measurement of FSK Wireless Transceiver

Chapter 13 PSK Transmitter

Experiment 1: Measurement of Transmitter Carrier Signal

Experiment 2: Measurement of Data Spread Spectrum Encoder Signal

Experiment 3: Measurement of PSK Modulation Signal Waveforms

Experiment 4: Measurement of PSK Transmitter

Chapter 14 PSK Receiver

Experiment 1: Measurement of PSK Receive Signal Waveforms

Experiment 2: Measurement of PSK Wireless Transceiver