

# WIRELESS BASIC COMMUNICATION ELECTRONICS TRAINERS

WBCET-2002A



## 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 contrarollable household appliances.
4. Understanding the theory and measurements of antenna and electric wave transmission.

## Features : Curriculum Objectives :

1. A complete laboratory training system.
2. Analog communications and telephone system.
3. Suitable for both technician and vocational high school training.
4. Simple and easy breakdown elimination training and repairing ability training for common communication equipments.
5. To verify the relationship between theory and practical.

## 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 Microstrip Line and Antenna**

Experiment 1: Characteristics Measurement of Microstrip Line

Experiment 2: Characteristics Measurement of Antenna

## **Chapter 10 Understanding Communication and Broadcast Equipments**

Experiment 1: Understanding the Functions of Switchboard, Fax Machine and Modem

Experiment 2: Understanding the Functions of Pager and Mobile Phone

Experiment 3: Understanding the Functions of Television Set and Cable Television