

OPTICAL FIBERS COMMUNICATION TRAINERS

OFCT-9000



- Description :**
1. Ability to research and develop the optical fiber communication trainers independently.
 2. Textbook includes the details of theoretical and practical at the same time.
 3. Textbook includes expected results for reference.
 4. Problem discussion attached together with answers for reference.
 5. Only need oscilloscope and spectrum analyzer to obtain the measured results.

Specification : Module One: Transmitter Module (OFCT-9000-01)

1. Transmitted light wavelength: 660 nm and 820 nm.
2. Data rate: 1 Mbit/ sec.
3. Transmitter bandwidth: 1000 kHz.
4. Includes digital and analog transmitters, and also covers with E/O conversion circuit.
5. Built-in microphone input terminal and audio amplifier, used for audio amplify and optical fibers transmission experiment.
6. Built-in sine wave output signal, and also includes tunable output amplitude and frequency. Amplitude: 2 ; Frequency: 100 Hz ~ 2.5 kHz.
7. Built-in digital data generator, used to produce TTL signal and CMOS level output.
8. The wavelength of optical fibers transmission line: 500 nm ~ 1200 nm; ST and DIN connectors.

Module Two: Receiver Module (OFCT-9000-02)

1. Received light wavelength: 660 nm and 820 nm
2. Data rate: 1 Mbit/ sec
3. Receiver bandwidth: 1000 kHz

4. Includes digital and analog receivers, and also covers with E/O conversion circuit, amplifier and restore circuit.
5. Provided with tunable amplifier, which can drive the 8 W loud speaker.
6. The wavelength of optical fibers transmission line: 500 nm ~ 1200 nm; ST and DIN connectors.

Module Three: Computer Control Module (OFCT-9000-03)

1. Transmission interface: RS-232.
2. Transmission Baud rate: 9600 bps.
3. Type of display: LCD16X2 characters.
4. Ability to display numerals and English characters.
5. Input interface: 4X4 keypad.
6. Serial characters can be inputted from keypad to transmit.
7. Includes data transmission operation software.
8. The operation software environment: Windows.
9. Keypad switch provides with normal open type.
10. Provides with LED indicator function.
11. Optical fiber wires.

Module Four: Analog and Digital Signal Modulations Modules (OFCT-9000-04)

AM Modulation and Demodulation:

1. Carrier Signal: 100 kHz~1 MHz.
2. Audio Frequency Signal: 1 kHz~3 kHz.

FM Modulation and Demodulation:

1. Carrier Signal: 20 kHz.
2. Audio Frequency Signal: 1 kHz~5 kHz.

ASK Modulation and Demodulation:

1. Carrier Signal: 20 kHz~100 kHz.
2. Digital Signal: 1 kHz~10 kHz.

FSK Modulation and Demodulation:

1. Space Signal: 1270 Hz; Mark Signal: 1070 Hz.
2. Digital Signal: 0.2 kHz~5 kHz.

Module Five: Digital Signal Processing Module (OFCT-9000-05)

Signal source encoder and decoder (CVSD encode and decode):

1. Sampling Frequency: 16 kHz ~ 50 kHz.
2. Audio Frequency Signal: 100 Hz ~ 2 kHz.
3. TTL input and output level signals.

Channel Encoder and Decoder (Manchester Encode and Decode):

1. Input TTL level signal.

2. CLK: 500 Hz~1 kHz.

3. Data Rate: 250 bps~500 bps