

# OPTICAL FIBER COMMUNICATION TRAINER

Model Number : GOTT-OFC-334



## DESCRIPTION

- Textbook includes the theoretical and practical details
- Textbook includes the expected results for reference
- Problem discussion attached together with answers for instructor
- Only need oscilloscope and spectrum analyzer to obtain the measure results.

## PRODUCT MODULES

### TRANSMITTER MODULE

**CODE**  
**334-001**



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

### RECEIVER MODULE

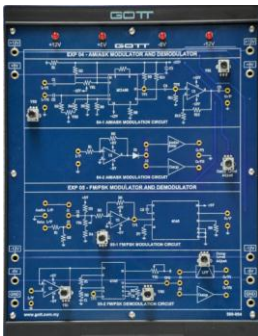
**CODE**  
**334-002**



- Received light wavelength: 660 nm and 820 nm.
- Data rate: 1 Mbps.
- Receiver bandwidth: 1 MHz.
- Includes digital and analog receivers, and also covers with O/E conversion circuit.
- Provided with tunable amplifier, which can drive the 8 W loud speaker.
- The wavelength of optical fibers transmission line: 500 nm ~ 1200 nm; ST and DIN connectors.

### ANALOG AND DIGITAL SIGNAL MODULATIONS MODULES

**CODE**  
**334-003**



#### AM Modulation and Demodulation

- AM Modulation:
  - Carrier Signal: 540 kHz ~ 1600 kHz.
  - Audio Frequency Signal: 1 kHz ~ 2 kHz.
- AM Demodulation:
  - Carrier Signal: 540 kHz ~ 1600 kHz.
  - Audio Frequency Signal: 1 kHz ~ 2 kHz.
  - Modulation Index: 50%.

#### FM Modulation and Demodulation

- FM Modulation:
  - Carrier Signal: 20 kHz.
  - Audio Frequency Signal: 1 kHz ~ 5 kHz.
- FM Demodulation:
  - Nature Frequency: 20 kHz.
  - Audio Frequency Signal: 1kHz ~ 3 kHz.

#### CASK Modulation and Demodulation

- ASK Modulation:
  - Carrier Signal: 20 kHz ~100 kHz.
  - Data Signal: 100 bps ~ 1 kbps.
- ASK Demodulation:
  - Carrier Signal: 20 kHz ~ 100 kHz.
  - Data Signal: 100 bps ~ 1 kbps.

#### FSK Modulation and Demodulation

- FSK Modulation:
  - Space Signal: 1370 Hz.
  - Mark Signal: 870 Hz.
  - Data Signal: 100bps ~ 500 bps.
- FSK Demodulation:
  - Space Signal: 1370 Hz.
  - Mark Signal: 870 Hz.
  - Data Signal: 100 bps ~ 500 bps.

# OPTICAL FIBER COMMUNICATION TRAINER

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## DIGITAL SIGNAL PROCESSING MODULE CODE 334-004



### Signal Source Encoder and Decoder (CVSD)

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

### Channel Encoder and Decoder (Manchester)

- Input TTL level signal.
- CLK: 500 Hz~1 kHz.
- Data Rate: 250 bps~500 bps.

## TV SIGNAL MODULATOR AND DEMODULATOR CODE 334-005



### TV Signal Generator

- Built-in 4 MHz quartz crystal oscillator.
- 8 selected types of TV signal.
- Output signal: ladder wave signal.
- Output frequency: 15.6 kHz.

### TV Signal Modulator

- Audio signal: FM demodulating signal.
- FM carrier signal: 5.5 MHz.
- Horizontal signal is demodulated by using the band-reject filter.
- Built-in low-pass filter to remove the noise of the audio signal.

### TV Signal Demodulator

- Audio signal: FM modulating signal.
- FM carrier signal: 5.5 MHz.
- Built-in audio signal generator. Output frequency : 100Hz ~ 1 kHz; Output amplitude : 600 mV ~ 1.2V.
- TV Signal: FM signal plus TV system horizontal signal.

## DC POWER SUPPLY & FUNCTION GENERATOR (OPTIONAL ITEM) CODE 500-107



### DC Power Supply

- Tripple Bipolar Voltage Outputs
  - DC 0 – +/-15V
  - DC +/-5V
  - DC +/-12V
- Constant & variable Voltage Operation
- Low Ripple and Noise

### Function Generator

- Two Signals Output Ports
- Frequency Range :
 

FG (I): 0 – 10Hz	FG (II): 0 – 100Hz
0 – 100kHz	0 – 1kHz
0 – 1kHz	0 – 10kHz
0 – 10kHz	0 – 100kHz
0 – 100kHz	0 – 1MHz
- Waveform : Sine, Triangle, Square, TTL Pulse
- Amplitude : 10Vpp
- Built-in-6-Digit Frequency Counter
- Two Large 0.5" LED Display
- Overload Protection

### Manuals:

- (1) All manuals are written in English
- (2) Model Answer
- (3) Teaching Manuals

### General Terms:

- (1) Accessories will be provided where applicable.
- (2) Manuals & Training will be provided where applicable.
- (3) Designs & Specifications are subject to change without notice.
- (4) We reserve the right to discontinue the manufacturing of any product.

### Warranty:

2 Years

### ORDERING INFORMATION :

ITEM	MODEL NUMBER	CODE
OPTICAL FIBER COMMUNICATION TRAINER	GOTT-OFC-334	334-000
DC POWER SUPPLY AND FUNCTION GENERATOR	GOTT-DC POWER SUPPLY & FUNCTION GENERATOR	500-107

\* Proposed design only, subject to changes without any notice.