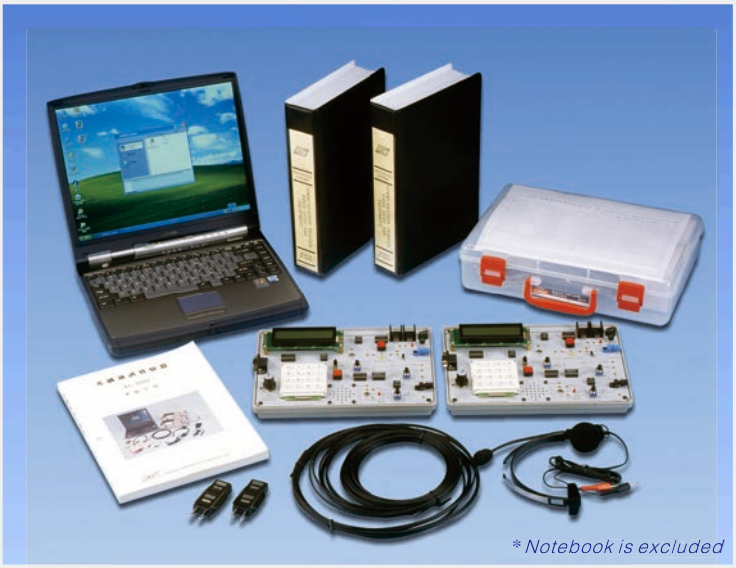
KL-900D

Fiber Optic Transmission Training System



Fiber Optic communication is one of the most popular technologies in the modern days due to its high transfer speed and large capacity. KL-900D uses fiber optic as a transmission media for the whole experiment.

Four different methods of data transmission (self-module transmission, module-to-module transmission, PC-to-module transmission and module-to-PC transmission) and various different modulation/demodulation methods (CVSD, ASK, etc.) are introduced in the training system. Users can obtain a clear view of how fiber optic transmission works.

Features

1. Four different methods of data transmission (self-module transmission, module-to-module transmission, PC-to-module transmission, and module-to-PC transmission).
2. Demonstrating productive use of fiber optic materials.
3. Assembled equipment will transmit voice and light from one point to another traveling through an optical fiber.

Specifications

Module (KL-95001)

1. Power : AC-DC Adapter
   (1) AC input :100V ~ 240V
   (2) DC output :15V, 500mA
2. Microphone Circuit
   (1) Frequency range : 20Hz ~ 12KHz
   (2) With gain amplified circuit
3. Push-button Switch
   (1) N.O. Type
   (2) With LED indication
4. Function generator
   (1) Output sine wave with adjustable output amplitude
   (2) Square wave from output transforming into CMOS level
   (3) Frequency range : 6Hz ~ 2KHz
5. Output Speaker
   8Ω, 1/4W
6. Transmitter
   (1) Optical fiber light : red LED, λ = 660nm
   (2) Max. drive current: 50mA
   (3) Effective coupling micro-lens spotlight
   (4) Emitter follower
7. Receiver
   (1) Optical receiving diode
      a. λ peak : 880nm
      b. Connectable plastic optical fiber with 1000μm core
      c. Effective coupling micro lens spotlight
      d. Max. consumption power : 100mW
   (2) With amplified, gain, restoring-sharpness circuit
8. Data transmission elements
   (1) Chipset : AVR8515, 8-bit, 8MHz crystal
   (2) LCD : back-light 20 x 2 character
   (3) Keyboard : 4 x 4 16Key
   (4) Character mode : single letter or string letter available
   (5) Send mode : OFF (self module transmission), transceiver (module-to-module), PC to module, module to PC
   (6) With reset function
   (7) Communication interface : RS-232C, 9600 baud rate
   (8) Software environment : Windows base

Experiment Modules

1. 2mm connection leads are used throughout the system
2. Building blocks and components symbols of the circuits are printed on the surface of each module.
3. Modules are secured in plastic housings ((255 x 165 x 30)mm ±10%)
4. Comprehensive experimental manual
5. Bridge plugs inserted into circuit loop to reduce the possibility of errors

List of Experiments

1. Fiber optics at the beginning
2. Applications of fiber optics
3. Light sources of fiber optics
4. Light and optical fiber interaction
5. Fiber optic transmitter
6. Fiber optic receiver
7. Fiber optic network and expand
8. Fiber optic connectors and fiber polishing
9. Data transmission - One module
10. Data transmission - Module to module
11. Data transmission - PC to module
12. Data transmission - Module to PC
13. CVSD data transmission (Optional)
14. ASK data transmission (Optional)
15. PSK/QPSK data transmission (Optional)

Accessories(KL-98004)

1. Connection Leads and Plugs x 1 set
2. Plastic Fiber Optics x 1 set
3. Experiment Manual
4. RS-232 to USB Adapter
5. Headphone and Microphone

Option Modules

1. KL-96001 Main Unit
2. KL-94004 CVSD Modulator / Demodulator, Manchester Code Encode / Decode
3. KL-94005 ASK Modulator / Demodulator
4. KL-94006 PSK / QPSK Modulator
5. KL-94007 PSK / QPSK Demodulator


KL-96001


KL-94004


KL-94005


KL-94006


KL-94007