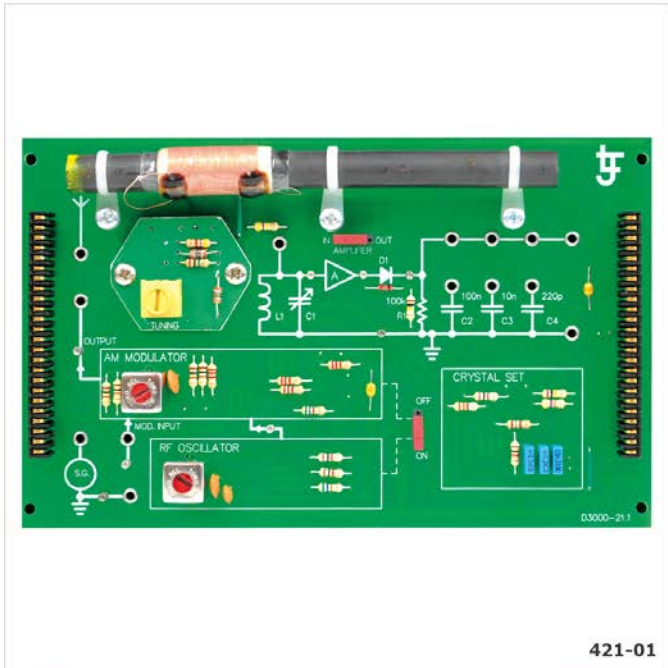
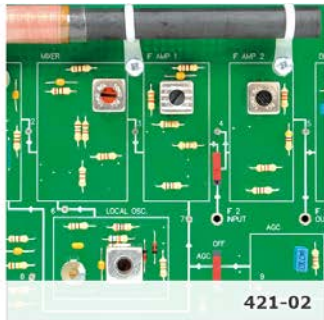


Product Information Sheet

Communications Experiment Card Set



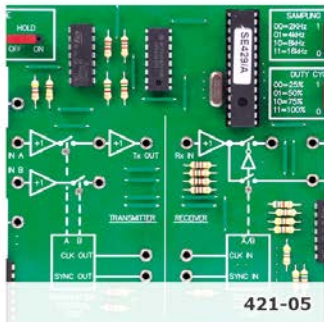
421-01



421-02



421-04



421-05



421-06

This collection of Intermediate Electronics Experiment Cards provides practical learning activities to cover the range of electronic communications topics

Each study card is designed to connect to the 409-01 Experiment Platform or to the 300-01/300-02 Advanced Electronics Experiment Platforms* as part of a modular electronics programme.

This set of practical resources is supplied with PDF manuals containing practical tasks and activities.

The set can also be used in conjunction with our optional cloud-based software, which offers online practical electronics tasks as well as interactive theory presentations, investigations, and assessments, which link directly to the practical activities carried out using this resource.

Topics Include:

- Radio Communication
- Amplitude Modulation
- Channel Bandwidth
- Radio Signal Receiver
- Tuning
- The Crystal Set
- Recognize the basic operation of a radio receiver
- Identify the problems in channel selection
- Measure the intermediate frequency (IF) and local oscillator (LO) frequency of a superhet receiver
- Recognize the principle of operation of a superhet receiver
- Examine the local oscillator
- Explore the radio frequency (RF) amplifier
- Investigate the mixer
- Measure the bandwidth of an intermediate amplifier stage
- Measure tuned gain of an intermediate amplifier stage
- Recognize the function performed by a multistage IF amplifier
- Determine the need for automatic gain control (AGC)
- Observe the operation of AGC
- Optical Fibers
- Light in Optical Fibers
- Optical and Electrical Characteristics
- Analog Communication via Optical Fibers

- Digital Communication via Optical Fibers
- Digital Communication of Analog Signals
- Fiber Optic Troubleshooting
- Introduction to Pulse Amplitude Modulation
- Sample Rate and PAM Frequency Content
- Time Division Multiplexing of PAM Signals
- TDM Transmission - Clock and Synchronization
- Introduction to Pulse Code Modulation
- Time Division Multiplexing of PCM Signals
- Practical Implementation of PCM Module
- PCM Transmission - Clock and Synchronization
- PCM Transmission - Error Detection and Parity

* Note: to connect to 300-01, 300-02, D3000 EXP or D3000 VIP2 you will also need a 409-02 Experiment Card Motherboard.

Product Information Sheet (Continued)

Core Electronics Experiment Card Set



Items Included:

- AM Communications (421-01)
- Superhet Receiver (421-02)
- Fiber Optic Communications (421-04)
- Pulse Amplitude Communications (421-05)
- Pulse Code Modulation (421-06)
- CDROM with PDF Manuals for above
- Storage Cases for Above

Other Items Required:

- 490-01 Experiment Platform
 - Digital Multimeter
 - Dual Trace Oscilloscope
 - Function Generator
- or*
- 300-02 Advanced Electronics Experiment Platform
 - 409-02 Experiment Card Motherboard

General Information:

Packed Volume: 0.01 m³
Packed Weight: 1.75 kg

See individual module information sheets for more specific details.

Order Code: 421-00

P8609-A

For more information visit www.ljcreate.com