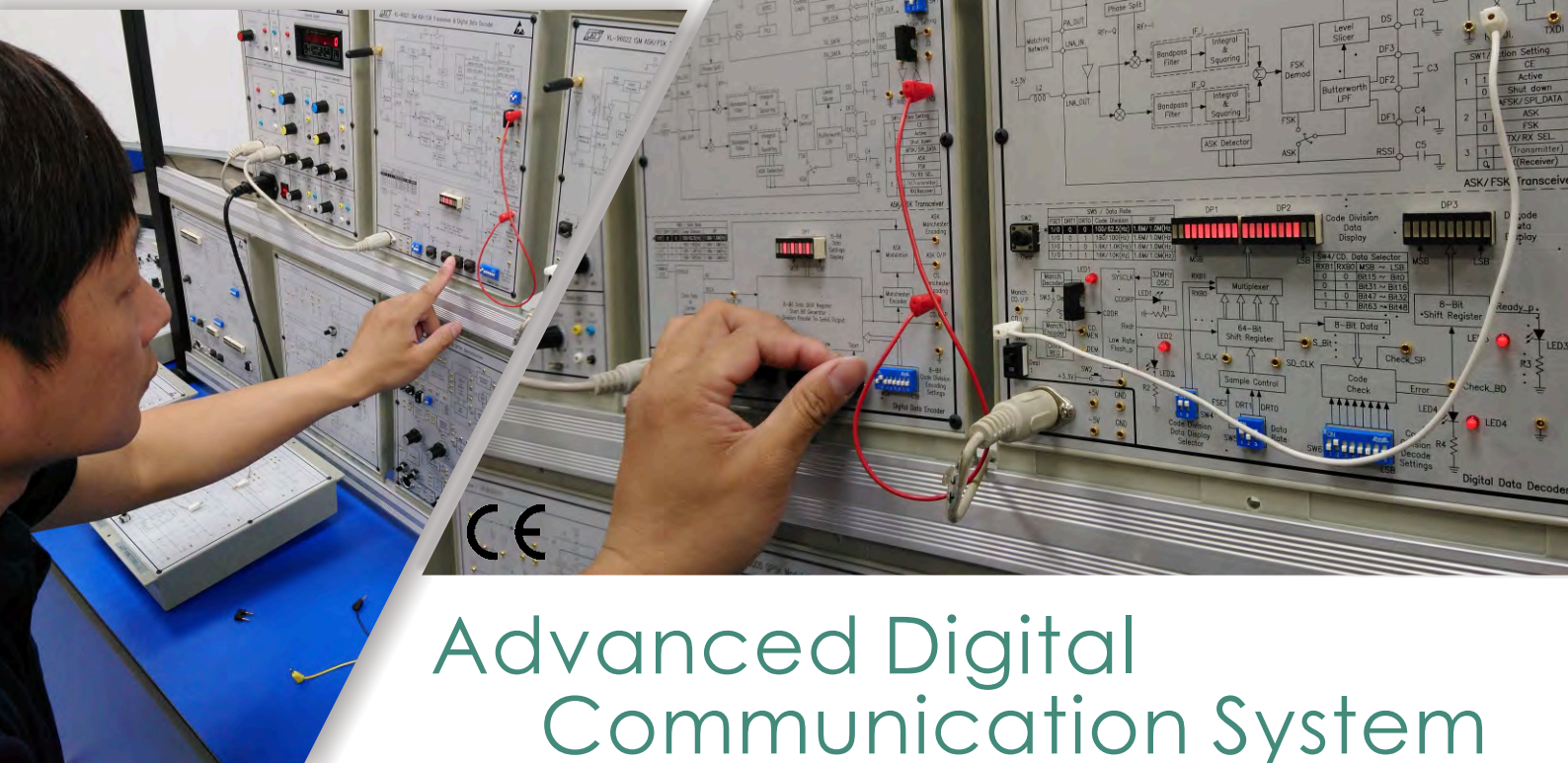


KL-920

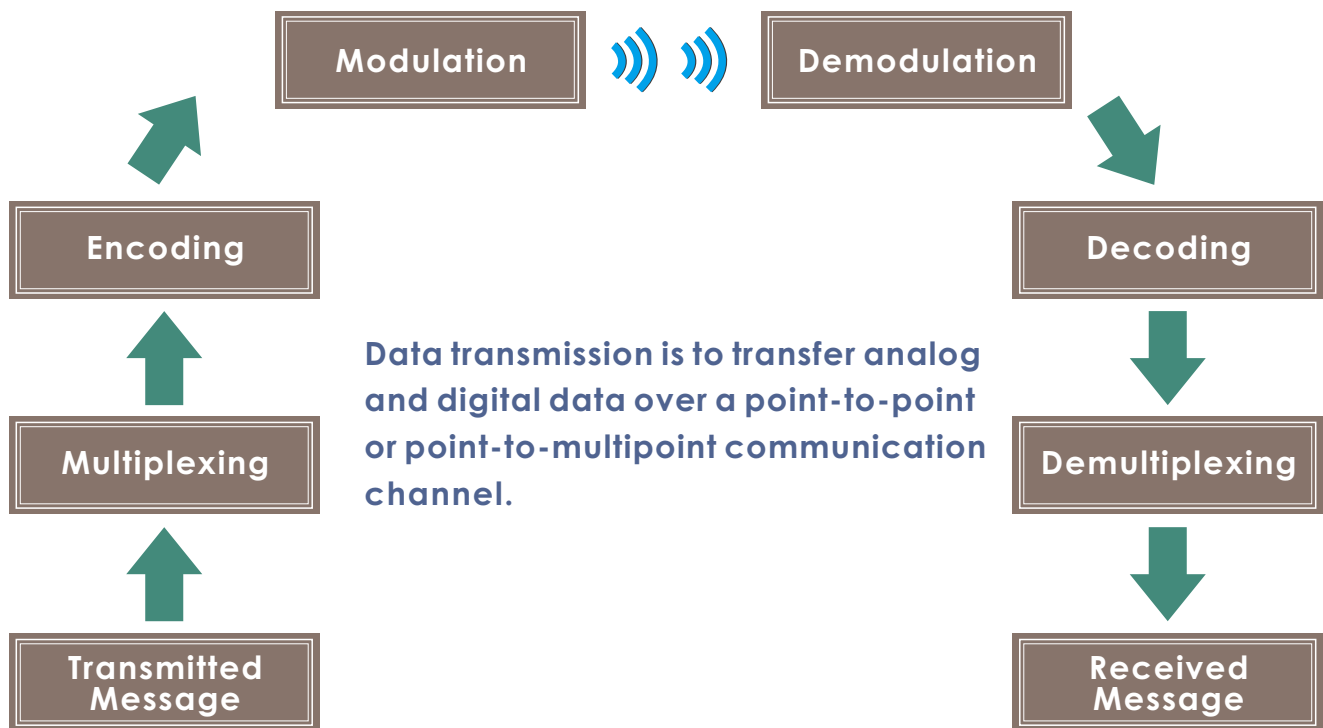


Advanced Digital Communication System

KL-920 is implemented with high speed MCU, DSP and highly flexible FPGA devices, giving students more opportunities to setup and observe digital data signals at each transmission stage.

Features

1. The digital data transmission format is integral, including start bit, preamble, identifier, data with FEC coding, CRC coding, and stop bit.
2. All digital transmission data is encoded with Manchester code and transmitted via ASK or FSK modulator.
3. Programmable data, data rate, preamble, identifier, and noise from DIP switches.
4. 3 sets of audio signals are sent and received over the TDMA channel via the STS1 and STM1 frames.



● Various encoding / decoding experiments

➡ Manchester

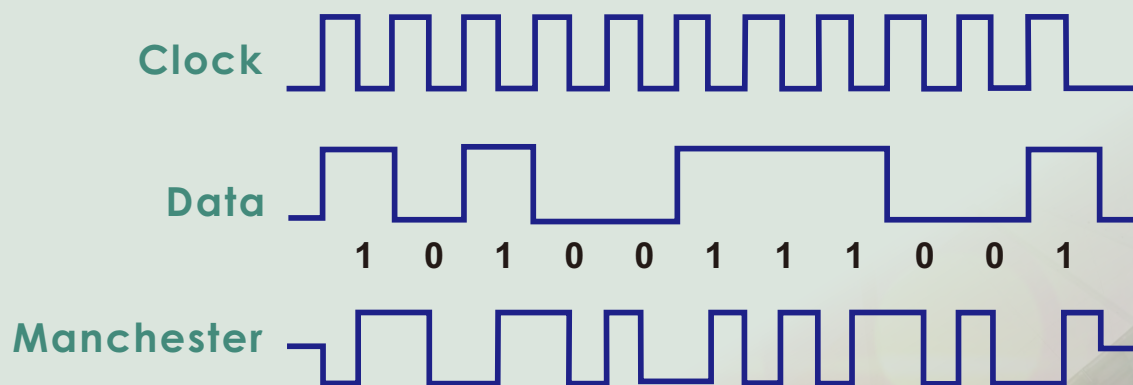
➡ SONET STM1

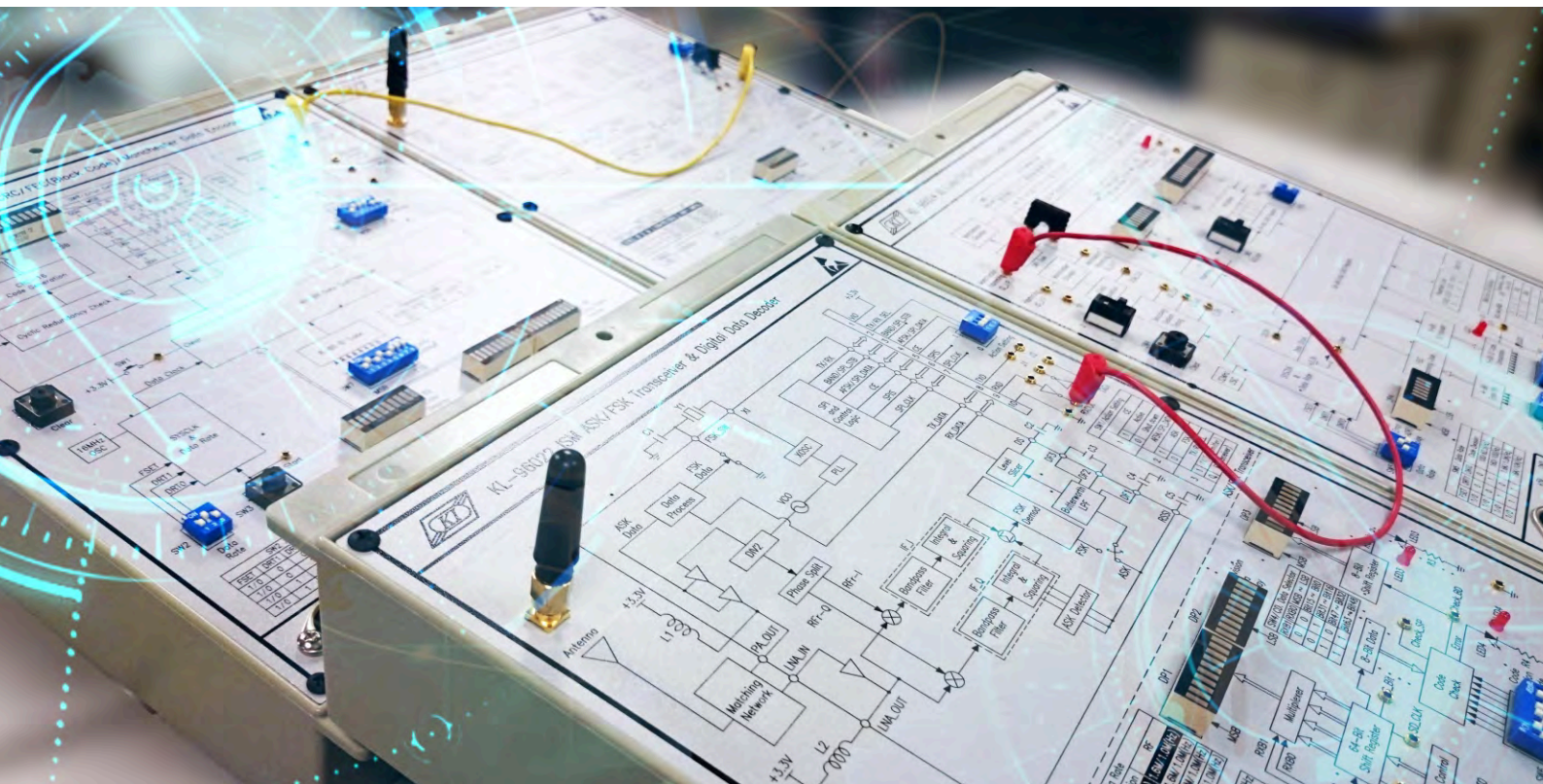
➡ DSSS

➡ SONET STS1

➡ TDMA

➡ CDMA





● List of Experiments

1. Spreading and Manchester Encoding
2. De-spreading and Manchester Decoding
3. Spread Signal ASK Transmission
4. Spread Signal FSK Transmission
5. (7,4) Hamming Encoding
6. (11,7) Hamming Encoding
7. (7,4) Hamming Decoding
8. (11,7) Hamming Decoding
9. Hamming Code ASK Transmission
10. Convolutional Encoding
11. Interleaved Convolutional Encoding
12. Viterbi Decoding
13. Viterbi Decoding and Error Correction
14. Convolutional Code ASK Transmission
15. STS1 TDMA Modulation
16. STS1 TDMA Demodulation
17. STM1 TDMA Modulation
18. STM1 TDMA Demodulation
19. CDMA Encoding and Decoding
20. DSSS Encoding and Decoding