

## Course AM transmission and receiving technology

### Includes:

- 1 Experiment card with AM modulator/demodulator, AM modulator switchable between AM/DSB, product demodulator and diode detector
- 1 Experiment card with AM receiver and HF input stage
- 1 Experiment card with AM IF (intermediate frequency-), LF (low-frequency) amplifier
- 1 Experiment card with Colpitts-/Hartley-Oscillator
- Labsoft browser and course software

### Course contents:

- Introduction to the design and function of Hartley- and Colpitts oscillators
- Tuning oscillators
- Introduction to principles of capacitive and inductive feedback
- Investigation of resonance conditions (self-excitation) by measurement
- Design and investigation of an AM transmitter
- Tuning an oscillator and measuring various degrees of modulation
- Measuring the frequency response of the output voltage of an oscillator
- Design and investigation of an AM receiver
- Introduction to the principle of receiver design
- Tuned radio frequency receivers
- Superhet receivers
- Automatic gain control AGC
- Automatic frequency control AFC
- Investigation of a phase discriminator (Foster-Seeley) by measurement
- Introduction to the terms signal-to-image ratio (far-off selectivity) with and without pre-selector stage
- Demonstration and determination of the image frequency in superhet receivers by measurement
- Investigation of filter curves of high-frequency input stages IF amplifiers by measurement
- Determination of adjacent-channel selectivity
- Design of a medium-wave AM single stage superhet receiver with full-range tuning
- Course duration 4.5 h approx.

