Course Pulse modulation methods PAM, PCM, Delta

Includes:

- 1 Experiment card with PAM PCM modulator

- 1 Experiment card with PAM PCM demodulator

- 1 Experiment card with AMI/HDB3 coder/decoder

- CD-ROM with Labsoft browser and course software

Course contents:

- Introduction to PAM/PCM/Delta modulation, PAM/PCM/Delta demodulation, time multiplexing

- Shannon's sampling theorem

- Measuring PAM modulated signals over time

- Optimal filtering and anti-aliasing

- Identifying advantages and disadvantages of digital transmission

- Introduction to the principle quantisation of analog signals

- Generation of parallel and serial codes

- Companding methods using A law and μ law

- Determining quantising interval for a PCM transmission by measurement

- Measuring PCM coded signals over time

- Recording logarithmic transfer characteristics with companding according to a law and μ law (13 or 15 segments)

- Measuring PCM time-multiplexed signals over time

- Introduction to the key features of transmission codes

- Introduction to pseudo-ternary codes AMI, HDB3, modified AMI

- Measuring line-coded signals over time: AMI, HDB3 and modified AMI

- Transmission of information on a line along with clocking and synchronisation information

- Clock recovery and phase jitter

- Introduction to data packet formats for ISDN layer 1 (Integrated Services Digital Network)

- ISDN layer 1, investigation of position and function of frames and bits

- Investigation of a 2 channel transmission with control channel at data rates of 64kbits per channel

- Course duration 4 h approx.