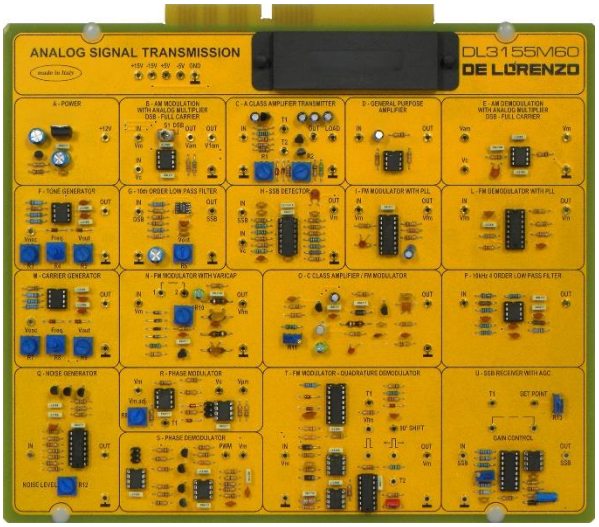
TIME ELECTRONIC BOARDS

ANALOGUE SIGNAL TRANSMISSION



DL 3155M60

The design and construction of electronic circuits to solve practical problems is an essential technique in the fields of electronic engineering and computer engineering.

With this board the students can study the operating principles of the most common techniques of analog modulation (AM, DSB, SSB, FM and PM) with the aid also of the signal generators and auxiliary circuits as VCO and PLL.

THEORETICAL TOPICS

- Amplitude modulation and demodulation (AM)
- Double side band modulation and demodulation (DSB)
- Single side band modulation and demodulation (SSB)
- Frequency modulation and demodulation (FM)
- Phase modulation and demodulation (PM)
- VCO and PLL circuits
- Carrier generator
- Low frequency generator
- Noise generator

CIRCUIT BLOCKS

- AM modulation and demodulation
- Carrier input 0 – 15 V peak-to-peak, 70 – 700 kHz
- Modulator input 0 – 15 V peak-to-peak, 3.5 – 50 kHz
- DSB modulation and demodulation
- Carrier input 0 – 15 V peak-to-peak, 70 – 700 kHz
- Modulator input 0 – 15 V peak-to-peak, 3.5 – 50 kHz
- SSB modulation and demodulation
- Selective filter
- Carrier input 0 – 15 V peak-to-peak, 300 - 350 kHz
- Modulator input 0 – 2 V peak-to-peak, 30 – 50 kHz
- SSB demodulator with ACG
- FM modulation and demodulation
- Input 1 – 10 V peak-to-peak, 2-5 kHz
- Carrier 6-9 MHz
- Quadrature FM modulation and demodulation
- Input 1 – 10 V peak-to-peak, 3-5 kHz
- PM modulation and demodulation
- Input 1 – 5 V peak-to-peak, 0 – 300 Hz
- VCO and PLL circuits
- Input 0 – 4 V peak-to-peak, 0 – 6 kHz
- Carrier generator

- 0 – 15 V peak-to-peak, 70 – 700 kHz
- Low frequency generator
- 0 – 15 V peak-to-peak, 3.5 – 50 kHz
- Noise generator
- Transmission with class C amplifier
- Gain of the receiver 15 dB

Complete with theoretical and practical manual.

Dimensions of the board: 297x260mm

CAI SOFTWARE:
Each board of the TIME system can be supplied complete with a Student Navigator software that allows students to perform their learning activities through a Personal Computer, without the need for any other documentation.
Ordering code: please add SW after the code of the board (i.e. DL 3155M60SW)

Required:
POWER SUPPLY NOT INCLUDED
Base frame with power supply (completed with connecting cables):
- **DL 3155AL3** - Base frame with power supply and interface to pc and virtual instrumentation
- **DL 3155AL2** - Base frame with power supply and interface to pc

Basic power supply (connecting cables not included):
- **DL 2555ALG -** DC power supply ±5 ±15 Vdc, 1A
- **TL 3155AL2 -** Connecting cables

Choosing this power supply, for the execution of the experiments, it is normally required the use of an oscilloscope and two multimeters.