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 principle of analog communication systems and analog signal processing techniques such as multiplication, division, square root, power, logarithm, antilogarithm, attenuation, amplitude modulation and demodulation, non-invertingadder, difference amplifier, integrator and shunt.

THEORETICAL TOPICS

- Familiarization with analogue computing technique
- Basic and advanced linear operations
- Simultaneous multiplication and division
- Analog computation of powers and roots
- Log ratio computation
- Antilog computation
- Square root operation
- Attenuator overview
- Characteristics and key specifications for fixed and step attenuators
- Audio attenuators
- Forms of amplitude modulation
- Amplitude modulation and demodulation methods
- The Operational Amplifier characteristics
- Main configurations of the OA
- Fault simulation

CIRCUIT BLOCKS

- Reference power supply unit
- Real-time Analog computational unit
- One-quadrant multiplication unit
- One-quadrant division unit
- Root circuit
- Power circuit
- Log ratio operation with thermic compensation
- Antilog operation with thermic compensation
- Attenuator
- Amplitude modulation and demodulation
- Non-inverting summing block
- Difference amplifier
- Integrator
- Differentiator (Shunt)

Complete with theoretical and practical manual.

Dimensions of the module: 297x260mm

Note: this board is not provided with CAI software

Required:

POWER SUPPLY NOT AND COMPUTER INCLUDED

Base frame with power supply (completed with connecting cables):

- 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 0±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, two multimeters and a function generator.