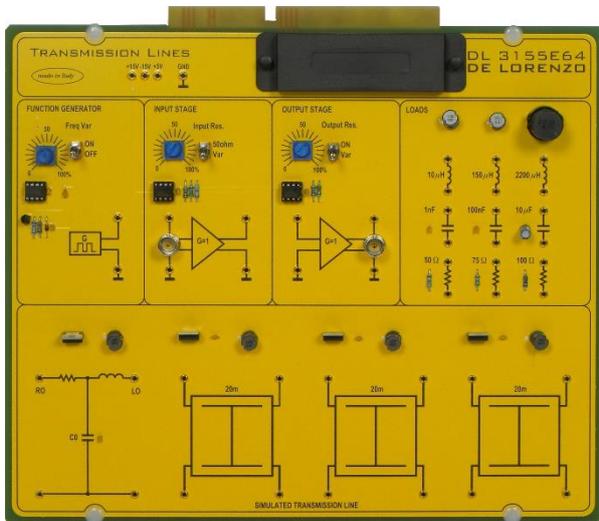




TRANSMISSION LINES



DL 3155E64

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 student can study and test the physical principles of the propagation of electrical signals on transmission lines and it can be an introduction to the use of the lines as a main element in communications systems.

THEORETICAL TOPICS

- Introduction to transmission lines
- Types of transmission mediums
- Losses in transmission lines
- Length of a transmission line
- Transmission line theory
- Lumped and distributed constants
- Electromagnetic fields in a transmission line
- Characteristic impedance of a transmission line
- Voltage changes along a transmission line
- Velocity of wave propagation
- Reflections on a transmission line
- Terminating and Standing waves on a transmission line

CIRCUIT BLOCKS

- Function generator
- Input and output stages
- RLC simulated coaxial cable transmission line of 80m (4*20m)
- R L C loads

Additional modules for coaxial cable measurements:

- Bridge circuits for RLC measurement (DL 3155E64A1).
- Coaxial cable module (DL 3155E64A2).

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 3155E64SW)

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 $\pm 5 \pm 15$ 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.

