

APPLICATION PROGRAMMING AND DEVELOPMENT TRAINER WITH PROGRAMMABLE LOGIC DEVICES



TM-530

The **TM-530** trainer is an innovative educational tool specifically created for easily learning the design, programming and development of applications using programmable logic devices (PLD). It may also be used professionally as an agile testing instrument for designing logic circuits without the need of creating connections or welding, or wasting time building circuits.

The instrument consists of:

- Wiring configuration and programming software
- PLD application design, compilation and simulation software
- Hardware module + ISP devices (in system programmable)
- Documentation (CD-ROM)

The configuration software enables PLD connections to be graphically assigned to the various components that make up the hardware module, without the need of the student to physically having to create the connections. The same software loads the application files (previously generated by the design software) onto the hardware module ISP device, "in system programmable".

Using the PLD application design, compilation and simulation software, the student enters the logic circuit design with diagrams or ABEL-HDL to generate the JEDEC file, which is then recorded in the PLD. Operation of the design may be functionally simulated before recording. The hardware module is then used by the student to test the real operation of the application. The hardware module includes two Lattice

devices (ispGAL22V10 and ispLSI1024), null insertion socket for GAL devices and a wide range of inputs/outputs (micro-switches, buttons, clocks, LEDs, displays and A/D and D/A converters, etc.) assigned by the configuration software. It also has a parallel bus output.

Documentation consists of an User's Manual, a Training Manual and a Teacher's Manual.

(The Documentation only available in Spanish language)

SPECIFICATIONS

Graphic User Interface

Programming GAL-type logic devices: 16V8, 20V8 and 22V10

Null insertion sockets for GAL's

Programming ispGAL22V10 and ispLSI1024 logic devices on boards

Flexible input/output software assignation of the logic device according to application

Available inputs/outputs:

- 1, 8-bit D/A converter
- 1, 8-channel, 8-bit A/D converter
- 2, 7-segment displays
- 2 relay outputs
- 16 switches
- 1 variable oscillator
- 16 led diodes
- 2 buttons
- 1 hexadecimal keyboard
- 1 application connector

Output compatible with PROMAX series MM-6XX educational modules

Communication between the trainer/programmer and a PC using the parallel port

Included power supply

Exercises (extract):

- Basic gates: NOT, AND, OR, NAND, NOR, XOR, NXOR
- Multiplexer/ Demultiplexer
- Encoder/Decoder
- bit adder 4, 8, ...
- Comparator
- Registries
- Counter
- Sequence detector

Requirements:

- PC-PENTIUM II[®] or greater
- Windows 98[®] O.S.
- Parallel port