REGULATION, CONTROL AND PROCESS CONTROL LABORATORY

* Center: "....."
* Country: "....."
* Date: "....."
* Issue: "....."

Quality Certificates:

ISO:9001-2000 Certificate of Approval. Reg. No. E204034

European Union Certificate

Certificates ISO 14001: 2004 and ECO-Management and Audit Scheme (environmental management)

Worlddidac Quality Charter Certificate
Worlddidac Member

Regulation, Control and Process Control Laboratory

Index

- Project content.

- Main concepts and options.

- Main target.

- Project options covered.

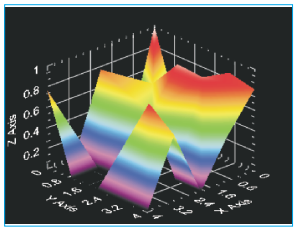
- Project conditions.

- Teaching techniques used.

Date: March 2007
Ref.:rcpcl(01/07)

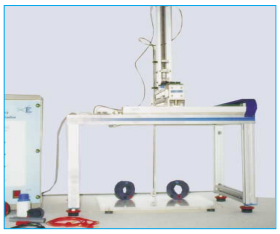
Project content

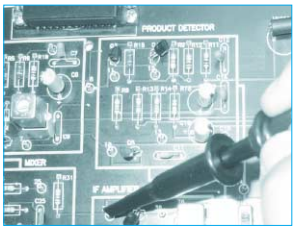
Modern design

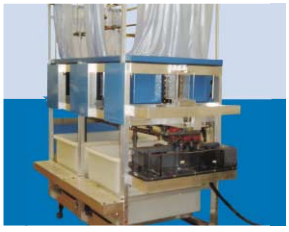


Main blocks

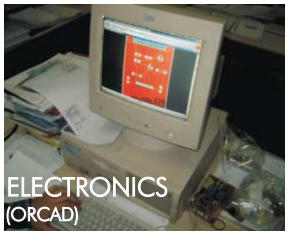
Products

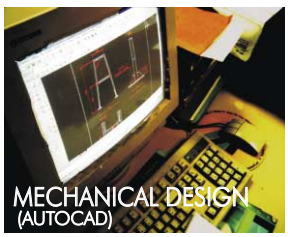






Full units design





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Main concepts and options

* Basic Concepts:

  - SAIT. Transducers and Instrumentation Trainer.

* Sensors Applications:

  - BS. Sensors and Transducers Modular Unit.

* Theoretical Concepts:

  - RYC. Regulation and Control Unit.
  - TDS. Digital Signal Processing Unit.
  - TECNEL. Power Electronics.
  - SERIN. AC & DC Insdustrial Servosystems Trainer.
  - CADDA. A/D and D/A Converters.

* Real Basic Process:

  - UCP. Process Control Unit for study of pH, Flow, Temperature, Level, Water Pressure, Turbidity, Conductivity and Speed Control.
  - UCP-P. Process Control Unit for study of Pressure (Air).
  - UCP-CN. Process Control Unit for the study of Flow, Temperature,Level and Water Pressure (using a Pneumatic Control Valve).

* Industrial Process:

  - CPIC. Computer Controlled Process Control Plant with Industrial Instrumentation.

* Multi option (30 students working simultaneously):

  - EDIBON Scada-Net

* Unitary Process (Main and Others):

  - CAGC. Gas Absorption Column, computer controlled.
  - UELLC. Liquid-Liquid Extraction Unit, computer controlled.
  - UDCC. Continuos Distillation Unit, computer controlled.
  - UESLC. Solid-Liquid Extraction Unit, computer controlled.
  - EDPAC. Double Effect Rising Film Evaporator, computer controlled.
  - QRQC. Chemical Reactors Training System, computer controlled.
  - QDTLC. Liquid Mass Transfer and Diffusion Coefficient Equipment, computer controlled.
  - QDTGC. Gaseous Mass Transfer and Diffusion Coefficient Equipment, computer controlled.
  - EFLPC. Deep Bed Filter Unit, computer controlled.
  - CAPC. Pellicular Gas Absorption Column, computer controlled.
  - LFFC. Fixed and Fluidised Bed Unit, computer controlled.
  - QEDC. Batch Solvent Extraction and Desolventising Unit, computer controlled.

Main target

* To help the students:

  - By “quick” understanding.
  - By “clear” understanding (clear concepts).
  - By “saving” time.
  - By “extending” the laboratory to their homes.

* To help the teachers:

  - By “easy” teaching.
  - By increasing the teaching “efficiency”.
  - By “reducing” teaching costs (less time consume).
  - By “integrating” classroom and laboratory in the same place.

Project options covered

This *"Regulation, Control and Process Control Laboratory"* will cover the following:

a) To train students at laboratory.
b) To train trainers.
c) To be used for training and update educators in current teaching technologies.
d) To give courses to workers in the industry, as it simulates industrial process.
e) To be used for carrying out applied research, in several process and different technical areas.
f) To be used as research tool for international projects.
g) To train other countries teachers.
h) To get financial resources (Self-financed projects)

IMPORTANT ! Please ask for EDIBON International financing possibilities

Project conditions

The *"Regulation, Control and Process Control Laboratory"* includes the following technical and commercial conditions:

- Technical conditions:

a) Laboratories adaptation.
b) Installation of all units supplied.
c) Setting up for all work units.
d) Starting up for all units.
e) Training about the exercises to be done with teaching equipment.
f) Teacher training related with the teaching equipment and the teaching techniques used. (EDIBON and Center)
g) Technology transfer.

- Commercial conditions:

a) Packing.
b) Financing Charges.
c) F.O.B. Charges.
d) C.I.F. Charges.

- 8 Manuals for each teaching equipment:

. Required services manual.
. Assembly and installation manual.
. Interface and software/control console manual.
. Set in operation manual.
. Safety norms manual.
. Practices manual.
. Maintenance manual.
. Calibration manual.

TEACHING TECHNIQUES USED

3D. EDIBON THREE DIMENSIONS SYSTEM

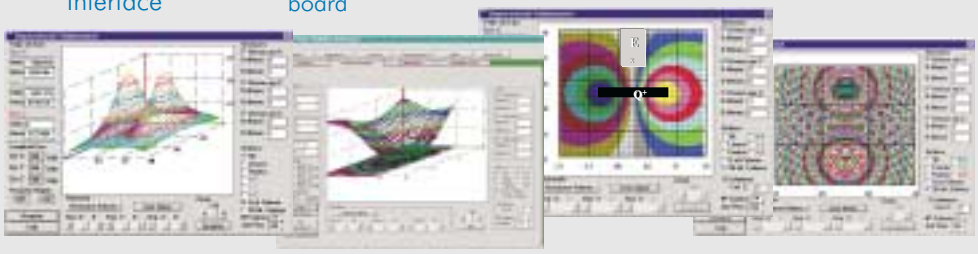

Unit


Interface


Data acquisiton board

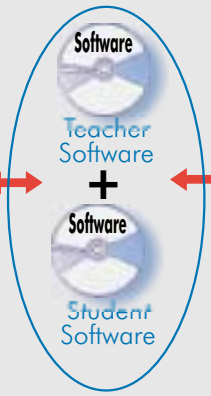
Software included:
-Control
-Data Acquisition
-Data Management

Used for:
Physics (Magnetic fields, Electrical fields, Mechanics, Acoustics, Optics, Thermodynamics and Fluid Mechanics)

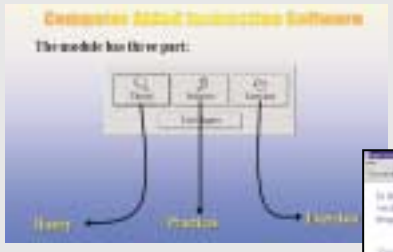


CAI. COMPUTER AIDED INSTRUCTION SYSTEM


Unit



Used for:
Basic Electronics and Electricity.
Communications.
Basic Mechanics.
Basic Fluid Mechanics.



EDAS. EDIBON DATA ACQUISITION SYSTEM

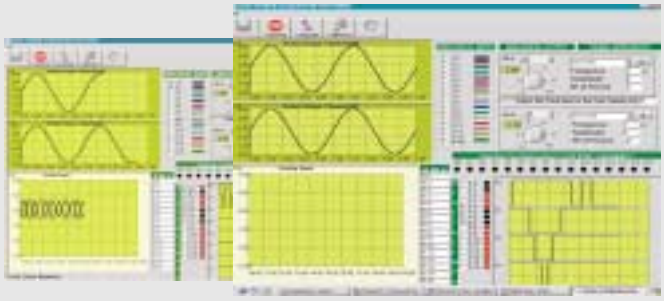

Unit


Interface


Data acquisiton board

Data Acquisition Software

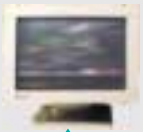
Used for:
Basic Electronics.
Communications.
Electricity.



RTC. EDIBON SYSTEM FOR HIGH ELECTRONICS (Real time control)


Unit

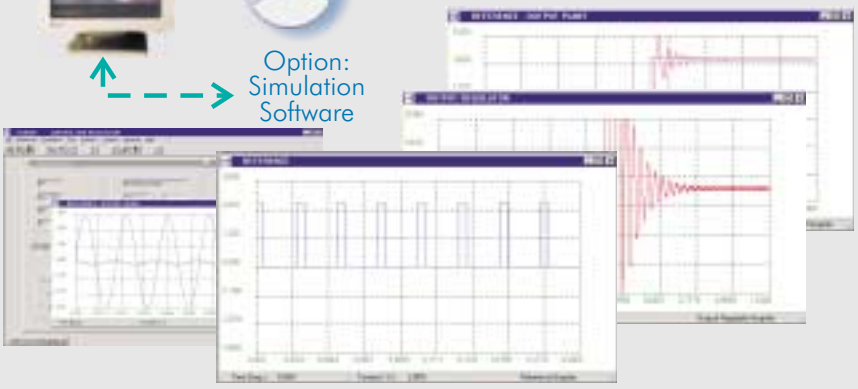

Data acquisiton board



Control Software

Option: Simulation Software

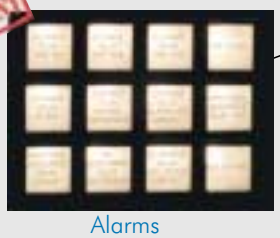
Used for:
High Tech Electronics (Control Electronics, Digital Electronics and Industrial Electronics).



HYBRID. **EDIBON TEACHING HYBRID SYSTEM (ENERGY)**

EDIBON PATENT

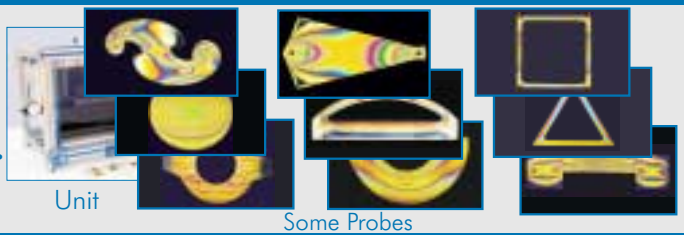
Used for:
Energy Power Plants.



Alarms

PHOTOELASTICITY

Used for:
Strength of Materials.

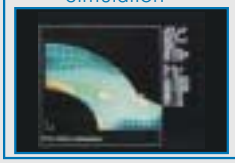


Unit

Some Probes

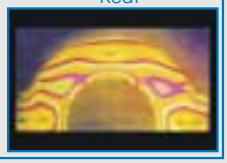
RESULTS

Simulation



Diferences between the simulation and the photoelastic reality.

Real



SACED. **EDIBON COMPUTER CONTROL SYSTEM: Control+Data Acquisition+Data Management**

EDIBON PATENT

Unit

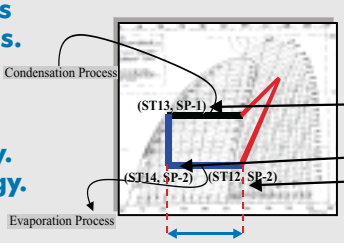
Interface

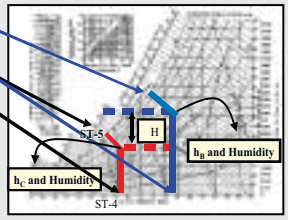
Data Acquisiton board

Software included:
-Control
-Data Acquisition
-Data Management

PLC option

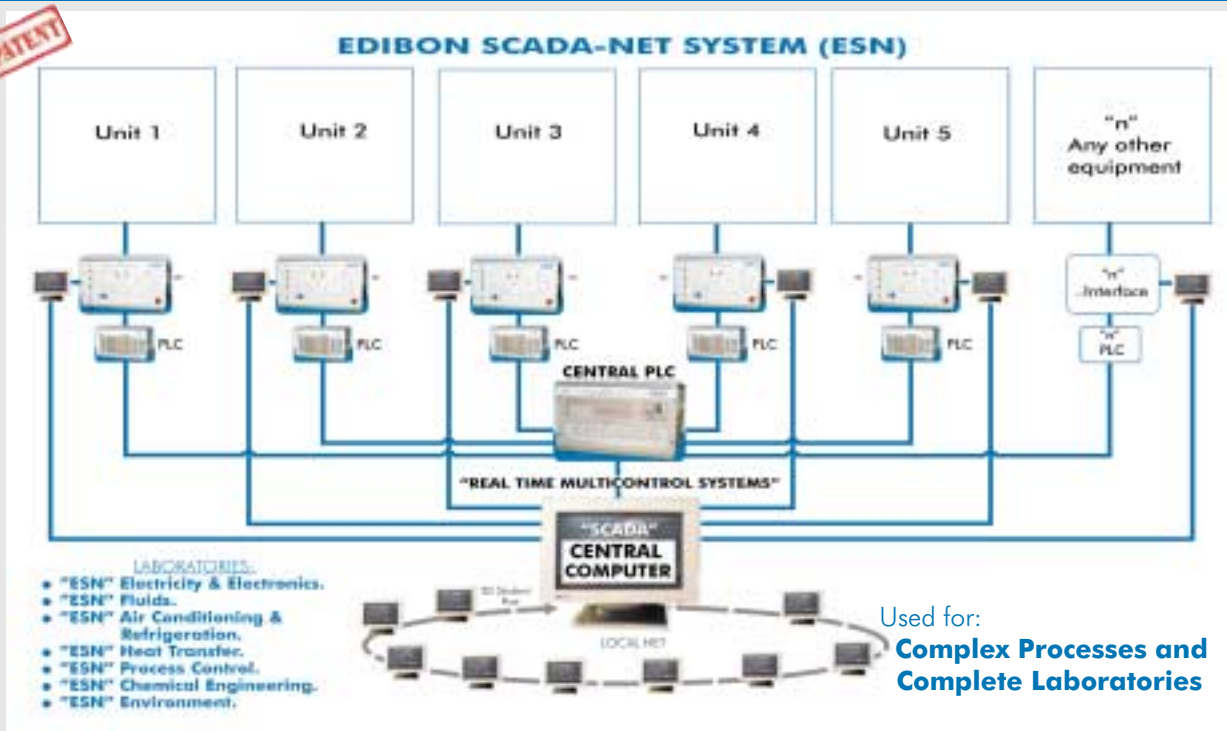
Used for:
Fluid Mechanics.
Aerodynamics.
Thermodymanics &Thermotechnics.
Process Control.
Chemical Engineering.
Food Technology.
Water Technology.
Environment.





ESN. **EDIBON SCADA-NET SYSTEM**

EDIBON PATENT



Used for:
Complex Processes and Complete Laboratories