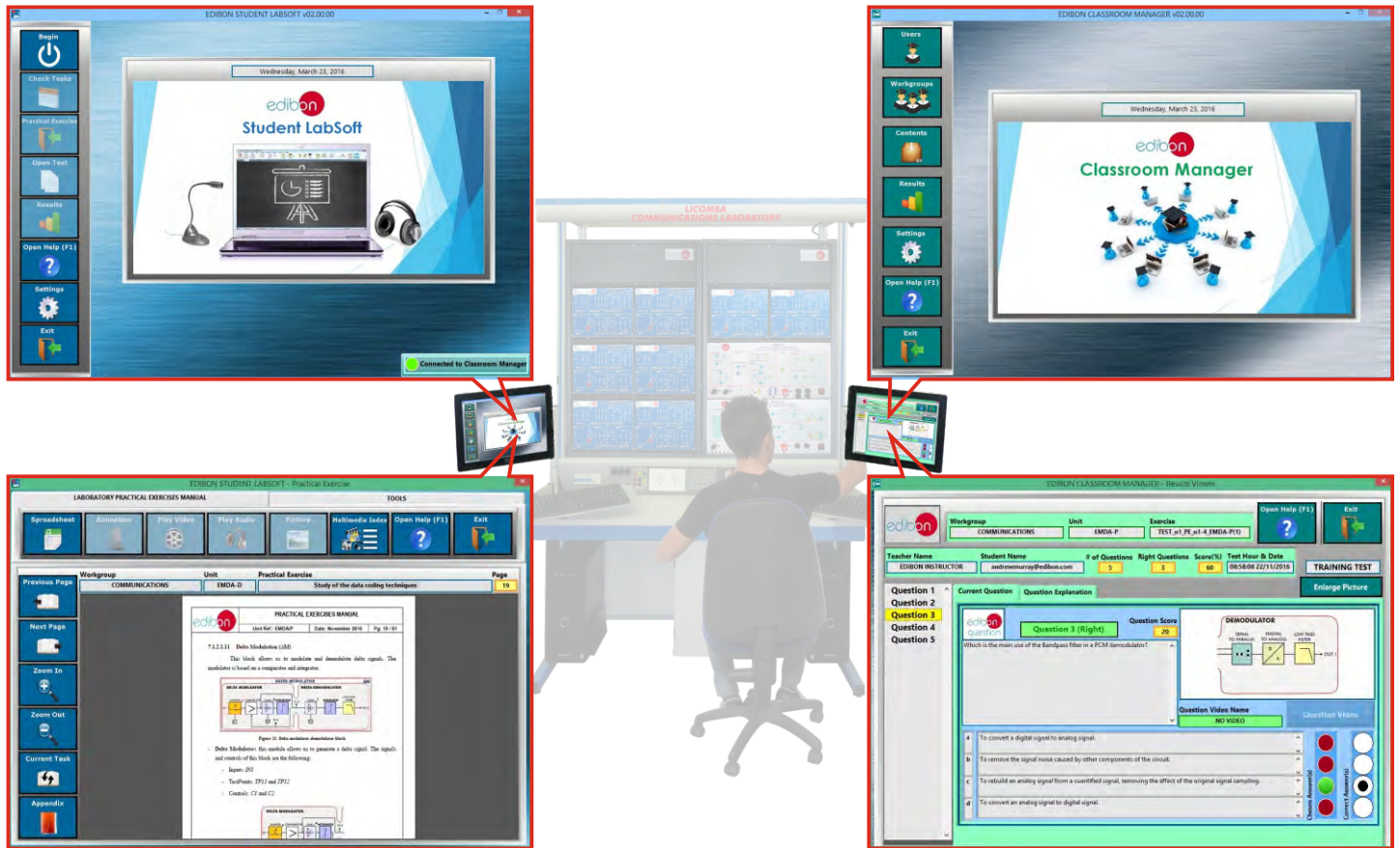


Engineering and Technical Teaching Equipment



Innovative features: ICAI = ECM-SOF + ESL-SOF

ECM-SOF. EDIBON CLASSROOM MANAGER (INSTRUCTOR SOFTWARE)

- User Data Base Management.
- Administration and assignment of Workgroups, Tasks and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.
- Updatable Contents.
- Report generation, User Progression Monitoring and Statistics.

ESL-SOF. EDIBON STUDENT LABSOFT (STUDENT SOFTWARE)

- Student Log-In & Self-Registration.
- Existing Tasks checking & Monitoring.
- Default contents & scheduled tasks available to be used from the first session.
- Practical Exercises accomplishment by following the Manual provided by EDIBON.
- Evaluation Methods to prove your knowledge and progression.
- Test self-correction.
- Calculations computing and plotting.
- Equation System Solver Engine.
- User Monitoring & Printable Reports.
- Multimedia-Supported auxiliary resources.

Imp! With additional small cost, this system can be supplied in your language.

More details:

www.edibon.com/products/catalogues/en/ICAI.pdf



ISO 9001: Quality Management
(for Design, Manufacturing,
Commercialization and After-sales service)



European Union Certificate
(total safety)



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



Worlddidac Quality Charter
Certificate and
Worlddidac Member

What is ICAI Software?

ICAI incorporates E-Learning into the curriculum in response to one of the **instructor's** main tasks, providing the **students** the right tools to learn by themselves in the most efficient and painless way.

The ICAI, Interactive Computer Aided Instructor Software System, helps both the teacher and the students.

a) It helps the **teachers** by:

- a. Scheduling their classes and tasks easily.
- b. Checking in real time what any student is doing and enabling the instructors to teach faster and more efficiently.
- c. Supervising the students understanding progress and level, questions and answers as well as the whole class evolution.
- d. Ensuring more individual attention.
- e. Adapting the learning patterns.
- f. Reducing the preparation time for lessons.
- g. Teaching easily.

b) It helps the **students** by:

- a. Enabling them to understand the operation of any EDIBON Teaching Unit and the principles involved easily. This software can be used for all manual computer controlled EDIBON SCADA units.
- b. Providing them modern tools so that they are able to get clear ideas and quick understanding.
- c. Saving time.

Why ICAI Software?

Wide variety of **contents for any Area** (Electricity, Electronics, Fluid Mechanics, Thermodynamics...). These contents are divided into:

- a. **Practical Exercises:** Practical Exercises Manual & Multimedia Resources.
- b. **Tests: Two types of Evaluation Methods:** Training Test & Exams.
- c. **Calculations:** **Formula Packages related to the different Units** and a Spreadsheet tool to compute, compare and plot the results obtained in the laboratory and the theoretical ones. It also includes an **Equation System Solver Engine**.
- d. **Graphical Results: Custom Reports & Results:** Monitoring the Users & Workgroups progression.

Advantages of ICAI Software?

- ▶ **Start working from the first day:** EDIBON provides a huge variety of default contents & scheduled tasks available to be used from the first session.
- ▶ **Updatable Contents:** The provided material can be periodically updated.
- ▶ **Easy integration of own resources:** You can design/edit/remove your own contents & tasks.
- ▶ **Self-correction:** All tests are automatically evaluated by ICAI System Software.
- ▶ **Multimedia-Supported auxiliary resources:** Animations, Videos, Pictures, Audios, detailed Question Explanations and so on that can be shown to expand the student knowledge.
- ▶ **Printable Reports & Statistics:** Generate and export summarized information in different formats (**Tables, Histograms, Progression plots...**) related to the current status and results of the jobs planned for individual Users/Units/Tasks/Workgroups.

The ICAI, **Interactive Computer Aided Instruction Software System**, comprises the following programs: EDIBON CLASSROOM MANAGER (ECM-SOF) and EDIBON STUDENT LABSOFT (ESL-SOF).

ECM-SOF. EDIBON CLASSROOM MANAGER (INSTRUCTOR SOFTWARE)

ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual students, workgroups, units, etc... **so the teacher can know in real time the level of understanding of any student in the classroom.**



1. ECM-SOF. EDIBON Classroom Manager Software Application.

It includes the following Program Packages:



1.1 EUS. EDIBON Users Program Package.
User Data Base Management.



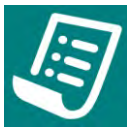
1.4 ETTE. EDIBON Training Test & Exam Program Package.
Custom Design of Evaluation Methods.



1.2 EWT. EDIBON Workgroups & Tasks Program Package.
Administration and assignment of Workgroups, Tasks and Training sessions.



1.5 ECAL. EDIBON Calculations Program Package.
Creation and assignment of Formulas & Equations.



1.3 EPE. EDIBON Practical Exercises Program Package.
Creation and Integration of Practical Exercises and Multimedia Resources.



1.6 ERS. EDIBON Results & Statistics Program Package.
Report generation, User Progression Monitoring and Statistics.

ESL-SOF. EDIBON STUDENT LABSOFT (STUDENT SOFTWARE)

ESL-SOF is the application addressed to the Students that helps them to understand theoretical concepts by means of practical exercises and to prove their knowledge and progression by performing tests and calculations in addition to Multimedia Resources. Default planned tasks and an Open workgroup are provided by EDIBON to allow the students start working from the first session. Reports and statistics are available to know their progression at any time, as well as explanations for every exercise to reinforce the theoretically acquired technical knowledge.



2. ESL-SOF. EDIBON Student LabSoft Software Application.

It includes the following Program Packages:



2.1 EUS. EDIBON Users Program Package.
Student Log-In & Self-Registration.



2.4 ETTE. EDIBON Training Test & Exam Program Package.
Evaluation Methods to prove the student's knowledge and progression.



2.2 EWT. EDIBON Workgroups & Tasks Program Package.
Existing Tasks checking & monitoring.



2.5 ECAL. EDIBON Calculations Program Package.
Calculations computing and plotting.

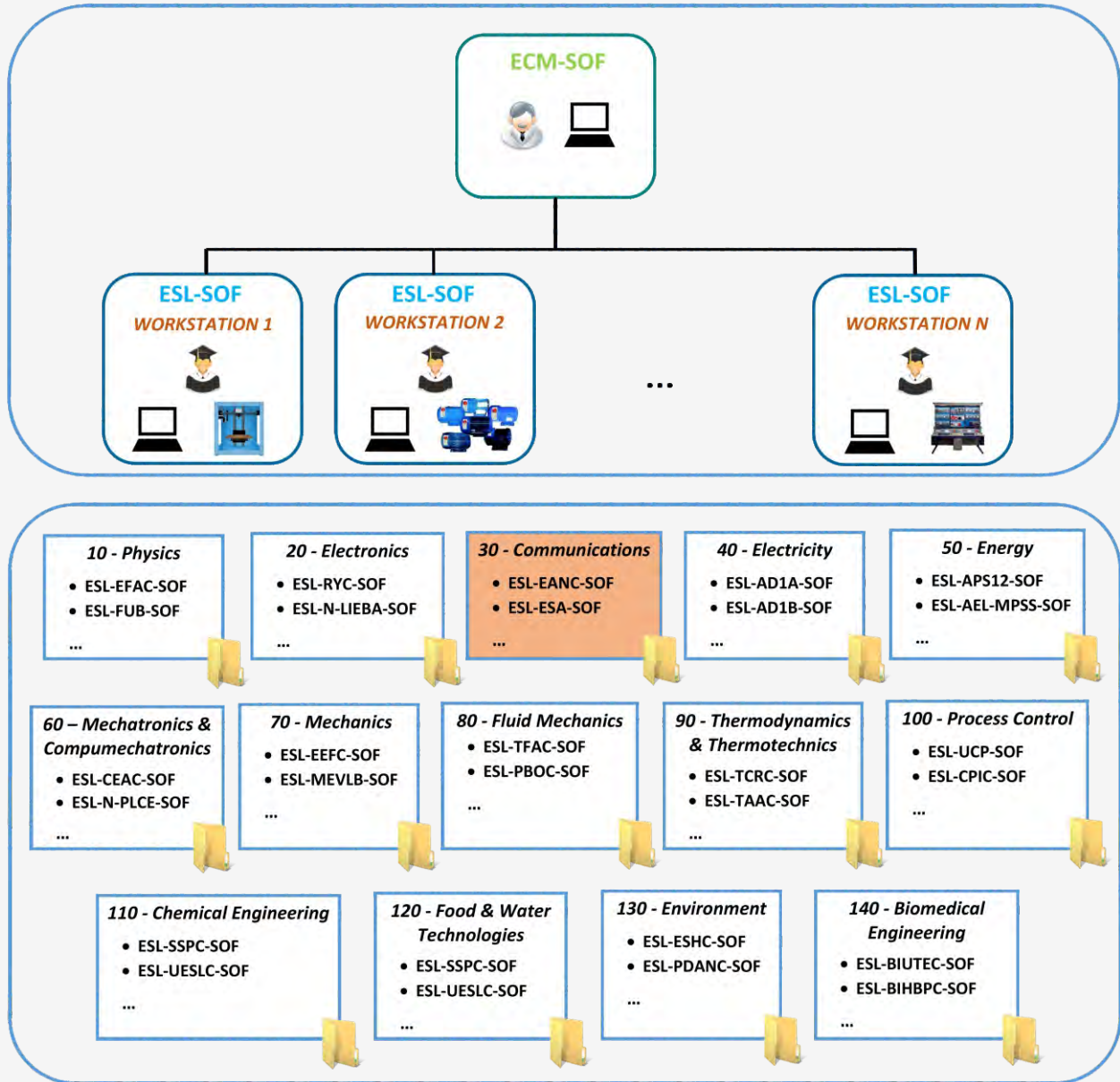


2.3 EPE. EDIBON Practical Exercises Program Package.
Practical Exercises accomplishment by following the Manual provided by EDIBON.



2.6 ERS. EDIBON Results & Statistics Program Package.
Student results monitoring.

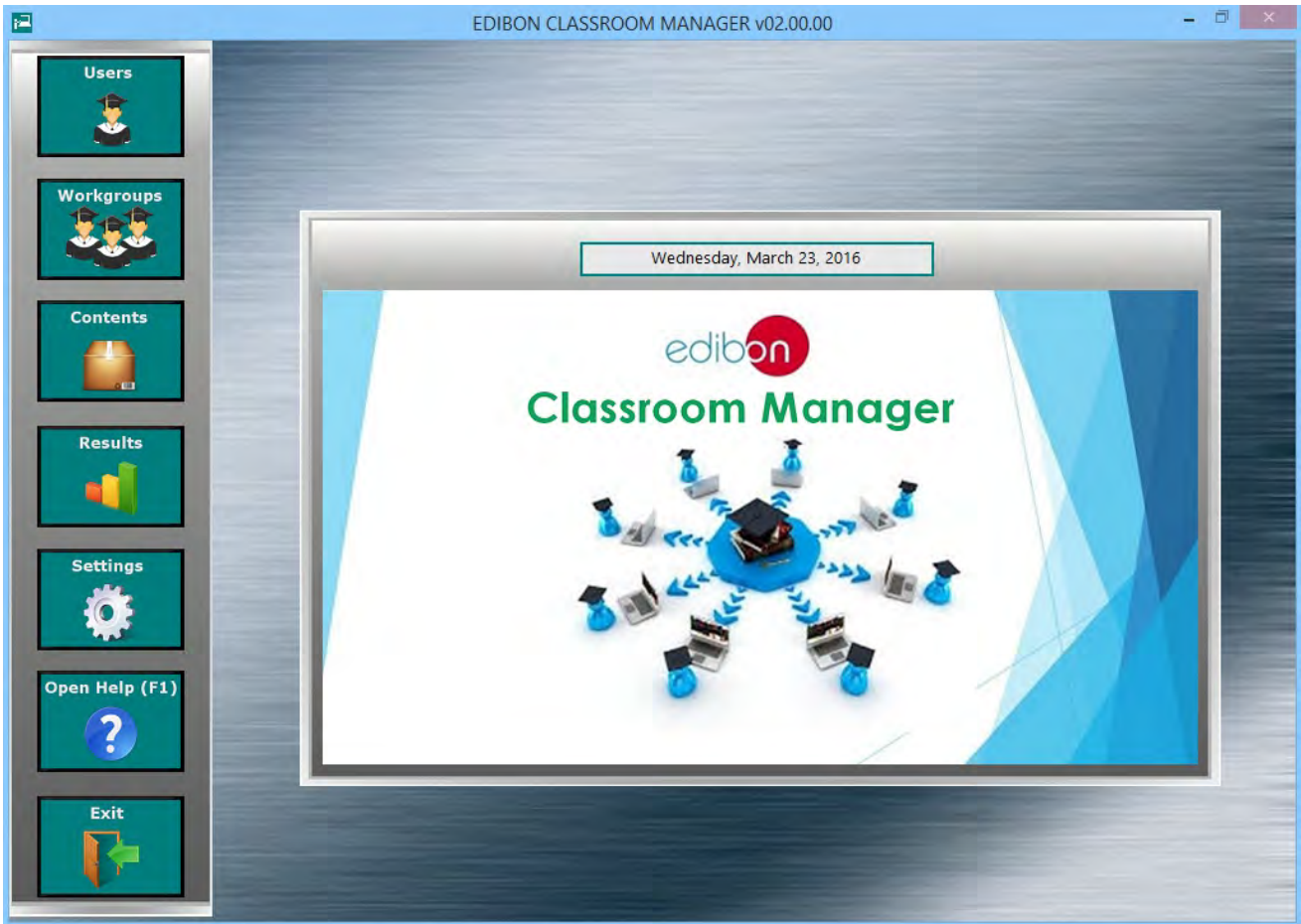
The following picture shows a Laboratory incorporating the ICAI Software System in several Workstations:



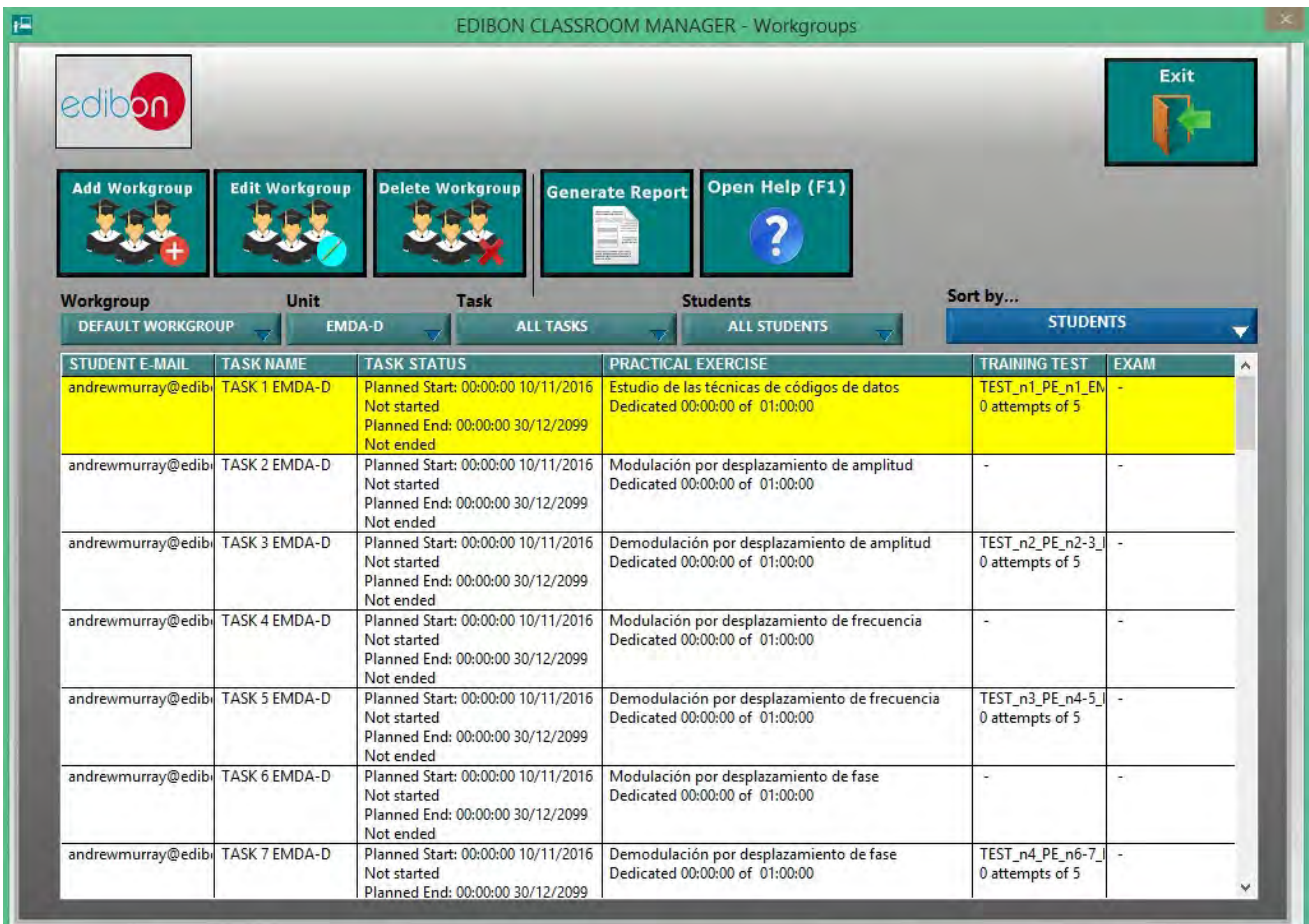
* Contents included for all ECM-SOF and ESL-SOF Workstations.

SOFTWARE MAIN SCREENS

ECM-SOF. EDIBON Classroom Manager Software Application main screen

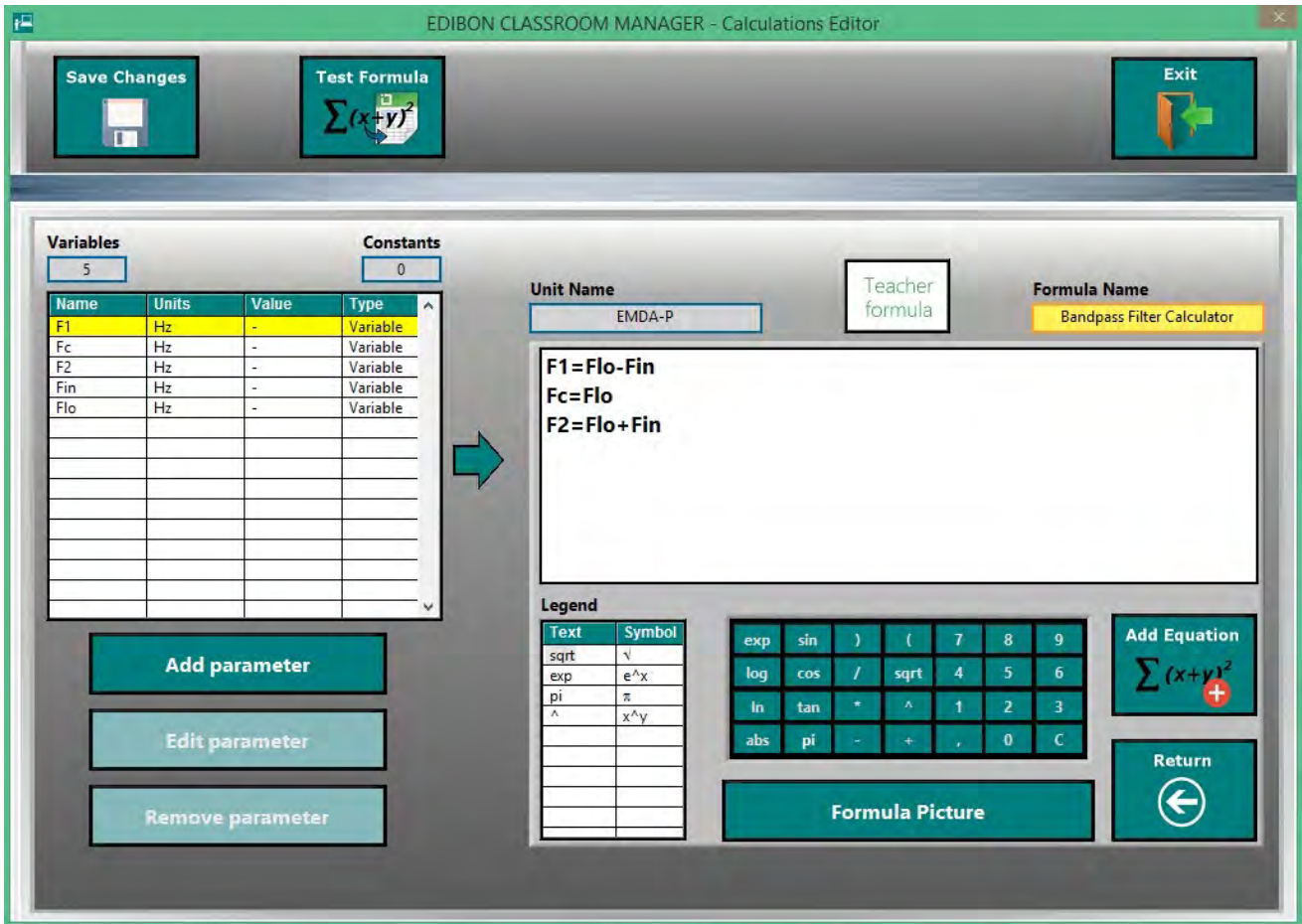


EWT. EDIBON Workgroups & Tasks Program Package - Main Screen

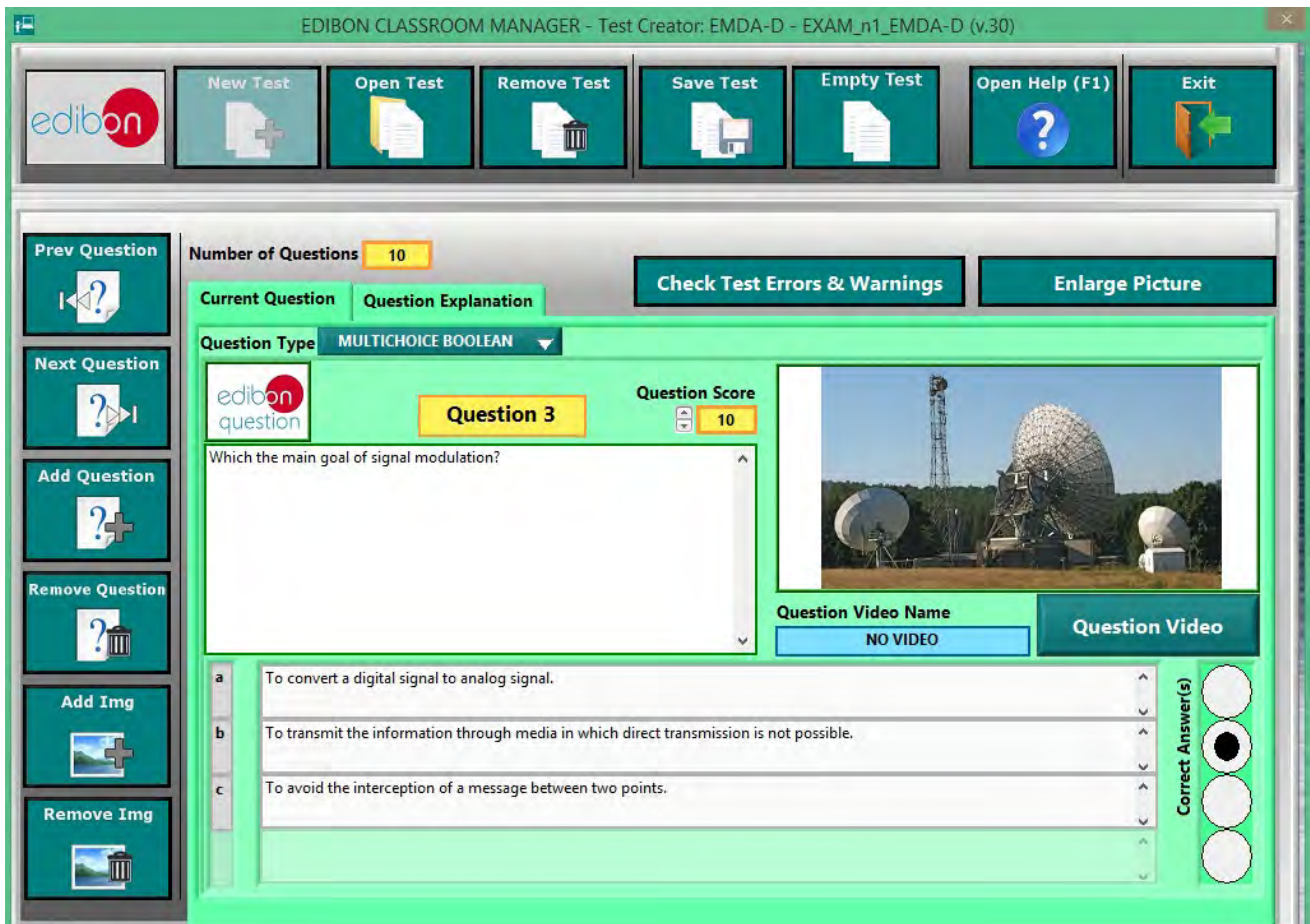


SOFTWARE MAIN SCREENS

ECAL. EDIBON Calculations Program Package - Formula Editor Screen



ETTE. EDIBON Training Test & Exam Program Package – Main Screen with Numeric Result Question



SOFTWARE MAIN SCREENS

ERS.EDIBON Results & Statistics Program Package - Detailed Test

EDIBON CLASSROOM MANAGER - Results Viewer

edibon logo

Workgroup: COMMUNICATIONS Unit: EMDA-P Exercise: TEST_n1_PE_n1-4_EMDA-P(1)

Open Help (F1) Exit

Teacher Name: EDIBON INSTRUCTOR Student Name: andrewmurray@edibon.com # of Questions: 5 Right Questions: 3 Score(%): 60 Test Hour & Date: 08:58:08 22/11/2016

TRAINING TEST Enlarge Picture

Question 1 Question 2 **Question 3** Question 4 Question 5

Current Question Question Explanation

edibon question Question Score: 20

Question 3 (Right)

Which is the main use of the Bandpass filter in a PCM demodulator?

Question Video Name: NO VIDEO Question Video

a To convert a digital signal to analog signal.

b To remove the signal noise caused by other components of the circuit.

c To rebuild an analog signal from a quantified signal, removing the effect of the original signal sampling.

d To convert an analog signal to digital signal.

Chosen Answer(s) Correct Answer(s)

ERS.EDIBON Results & Statistics Program Package - Student Scores Histogram

EDIBON CLASSROOM MANAGER - Results & Statistics

edibon logo Student Test Delete Result Generate Report Export Image Open Help (F1) Exit

WORKGROUP: COMMUNICATIONS UNIT: EMDA-P TASK: TASK 4 EMDA-P STUDENT E-MAIL: ALL STUDENTS

UNIT/TASK SUMMARY TASK-STUDENT MEAN SCORE PLOT TASK HISTOGRAM STUDENT SUMMARY STUDENT TEST-SCORE PLOT STUDENT HISTOGRAM

MEAN SCORE STANDARD DEVIATION

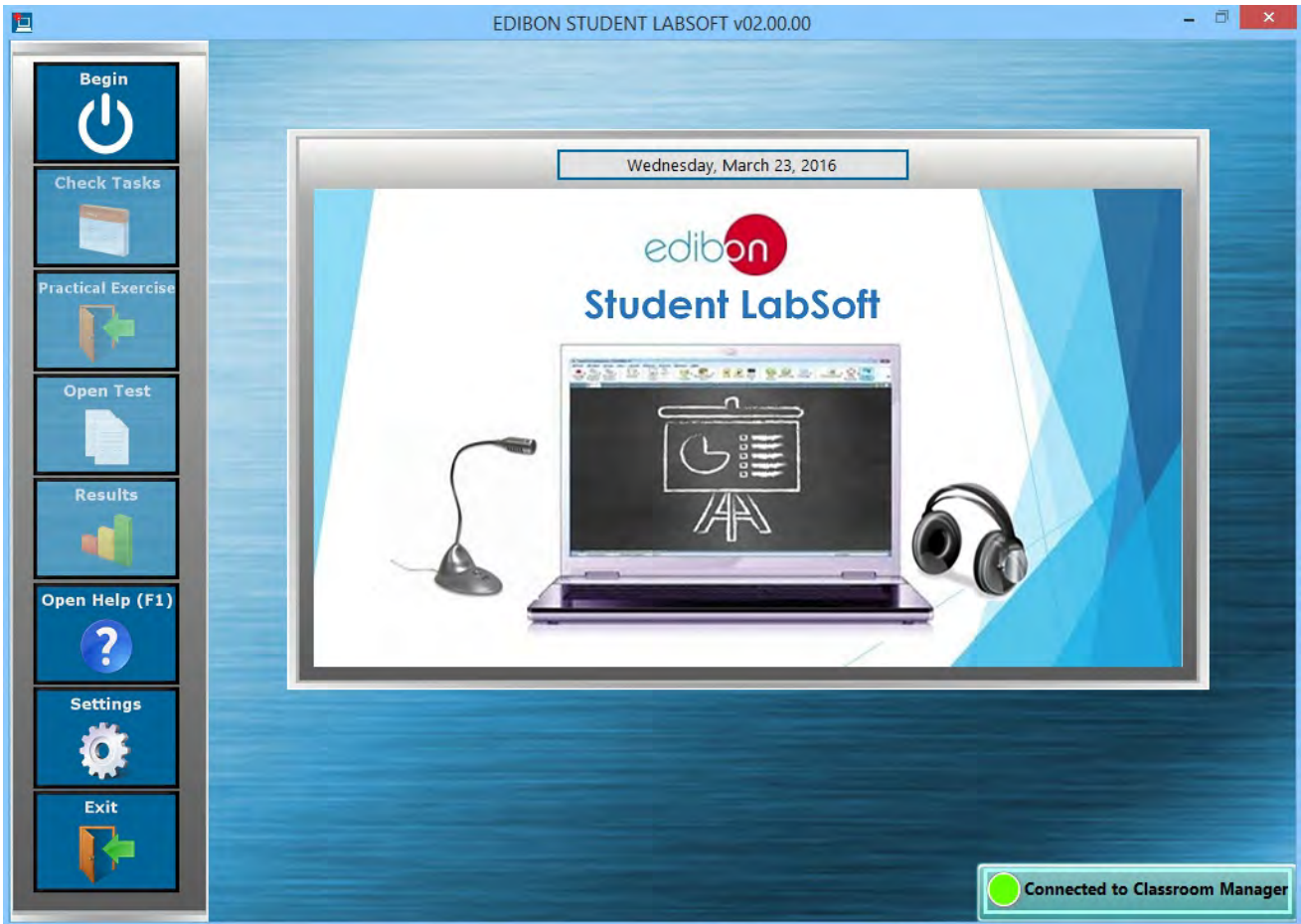
ID	e-mail	Mean Score	Standard Deviation
0	andrewmurray@edi	40	30,91
1	elizabethrose@edib	22,22	19,24
2	michaelmoore@edi	46,67	36,13

TASK-STUDENT MEAN SCORE PLOT

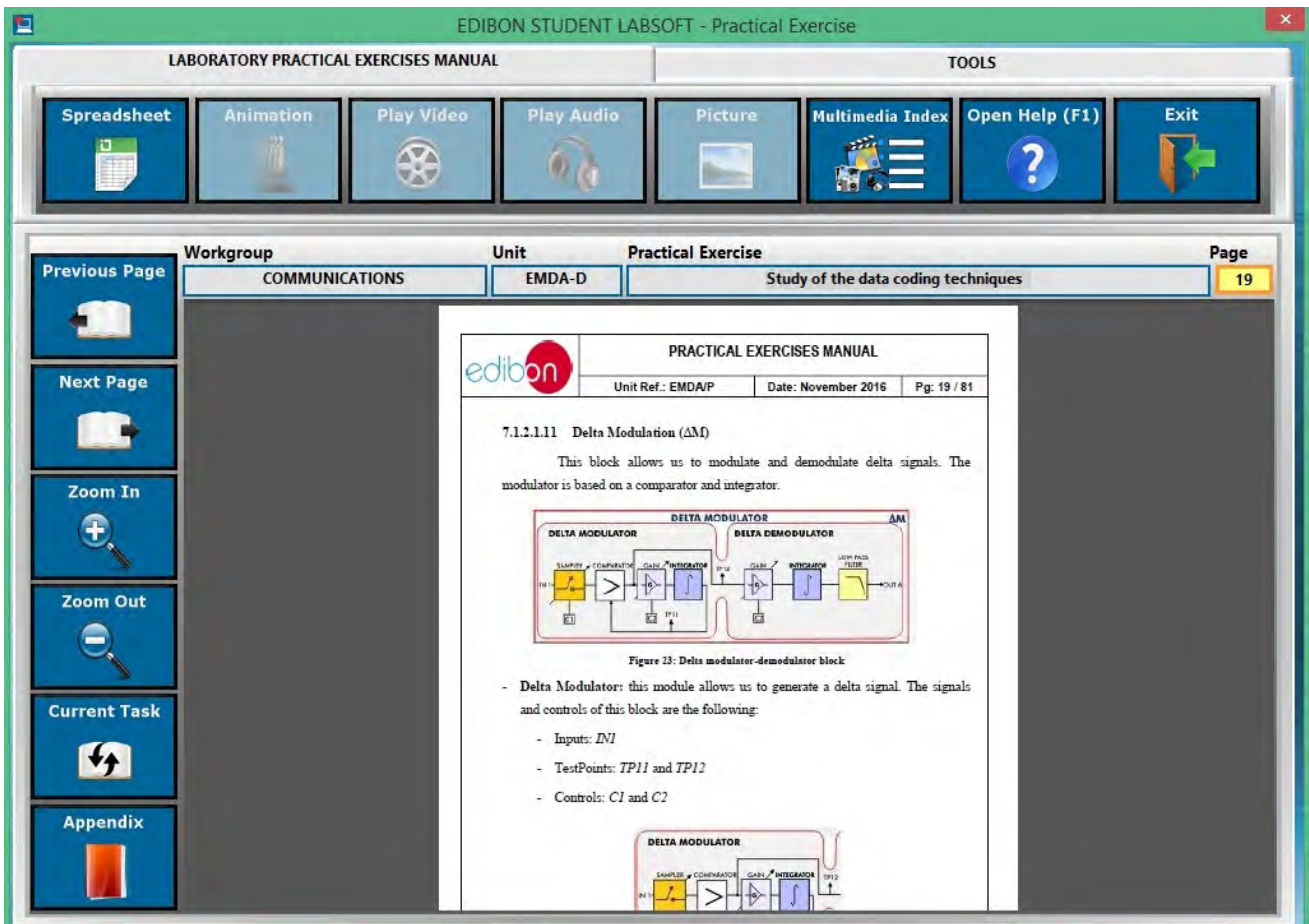
Restore Graph

SOFTWARE MAIN SCREENS

ESL-SOF. EDIBON Student LabSoft Software Application main screen



EPE. EDIBON Practical Exercise Program Package main screen



SOFTWARE MAIN SCREENS

ECAL. EDIBON Calculations Program Package main screen

SPREADSHEET

Compute

Clear

Plot Table

Plot Function

Save Table

Load Table

Open Help (F1)

Exit

Bandpass Filter Calculator

Enlarge Picture

Where/Donde:

F_{in} → Input signal frequency/frecuencia de señal de entrada

F_{lo} → Local oscillator frequency/frecuencia del oscilador

F_L → Lower cutoff frequency/frecuencia de corte baja.

F_c → Central frequency/frecuencia central.

F_H → Upper cutoff frequency/frecuencia de corte alta.

$F_1 = F_{lo} - F_{in}$

$F_c = F_{in}$

$F_2 = F_{lo} + F_{in}$

Constant Name	Value

Fin (Hz)	Flo (Hz)	F1 (Hz)	Fc (Hz)	F2 (Hz)
35	60	25	60	95
15	25	10	25	40
20	35	15	35	55

ETTE. EDIBON Training Test & Exam Program Package – Multi-Choice Question for a Training Test.

EDIBON STUDENT LABSOFT - Test

Prev Question

Next Question

Start Test

Finish Test

Open Help (F1)

Exit

Workgroup
 COMMUNICATIONS

Unit
 EMDA-P

Exercise
 TEST_n1_PE_n1-4_EMDA-P

Teacher Name
 EDIBON INSTRUCTOR

Student e-mails
 andrewmurray@edibon.com

of Questions
 5

Test Time
 01:00:00

Left Time
 00:59:16

TRAINING TEST
Enlarge Picture

Question 3

Question Score 20

Which is the main use of the Bandpass filter in a PCM demodulator?

Question Video Name
 NO VIDEO

Question Video

- a To convert a digital signal to analog signal. ●
- b To remove the signal noise caused by other components of the circuit. ●
- c To rebuild an analog signal from a quantified signal, removing the effect of the original signal sampling. ●
- d To convert an analog signal to digital signal. ●

SOFTWARE MAIN SCREENS

ERS.EDIBON Results & Statistics Program Package – Question Explanation

The screenshot shows the 'EDIBON STUDENT LABSOFT - Results Viewer' window. At the top, it displays the Edibon logo and navigation buttons for 'Open Help (F1)' and 'Exit'. Below this, a header section shows the 'Workgroup' (COMMUNICATIONS), 'Unit' (EMDA-P), and 'Exercise' (TEST_n1_PE_n1-4_EMDA-P(1)). A summary table provides the following data:

Teacher Name	Student Name	# of Questions	Right Questions	Score(%)	Test Hour & Date
EDIBON INSTRUCTOR	andrewmurray@edibon.com	5	3	60	08:58:08 22/11/2016

The main content area is titled 'Question 3' and includes a 'Current Question' and 'Question Explanation' tab. The explanation text states: 'The Bandpass filter is the last step of the PCM demodulator. This component removes the sampling effect that takes place when a digital-to-analog converter builds an analog signal by using the data coming from a binary plot.' Below the text is a diagram showing a 'DAC output signal' (a staircase waveform) being processed by a 'Low pass filter' to produce an 'Output analog signal' (a smooth sine wave).

At the bottom of the explanation area, there is a section for 'Explanation Video Name' (NO VIDEO) and 'Explanation Video Description' (NO DESCRIPTION FOR THIS VIDEO), with an 'Explanation Video' button.

ERS.EDIBON Results & Statistics Program Package - Student Scores Progression

The screenshot shows the 'EDIBON STUDENT LABSOFT - Results & Statistics' window. It features the Edibon logo and navigation buttons for 'View Test', 'Generate Report', 'Open Help (F1)', and 'Exit'. The student information is as follows:

Student e-mail	michaelmoore@edibon.com
Workgroup	COMMUNICATIONS
Unit	EMDA-P
Exercise Name	TEST_n1_PE_n1-4_EMDA-P

The main area is titled 'STUDENT TEST-SCORE PLOT' and shows a line graph of 'SCORE (%)' versus 'TEST ID'. The graph shows a score of approximately 17% for Test ID 1, rising to 33% for Test ID 2, and reaching 100% for Test ID 4. A 'STUDENT PROGRESS' indicator is visible in the top right of the graph area. There are 'Export Image' and 'Restore Graph' buttons on the right side.

ADDITIONAL AND OPTIONAL ITEMS

EDIBON-NET allows unlimited students to connect and take advantage of ICAI software in a wide variety of areas, in any classroom by offering additional network hardware:

- ✓ Gigabit Ethernet Switch.
- ✓ Gigabit Ethernet Wire.
- ✓ Network Card.



* For more details, please contact us.

REQUIREMENTS

1. Operating System:

Windows 7 32 bits or later.

2. PC Hard drive free space:

Between 1GB and 10GB depending on the units purchased.

3. RAM:

2GB.

4. Processor:

Intel Core i5.

5. Screen resolution:

1024 x 768 or higher.

6. Windows complements:

.NET Framework 4.5 or later must be activated (this complement can be installed with the CD provided by EDIBON).

7. Windows media player 12:

Included in Windows Vista, 7, 8 and 8.1 by default.

8. PDF reader:

Adobe Reader X or later (this software can be installed with the CD provided by EDIBON).

9. Web browser:

Internet Explorer, Mozilla Firefox or Google Chrome.

10. A CD/DVD drive:

A free USB port to plug the HASP USB Key (this key is provided by EDIBON).

11. A Network Interface Card.*

12. A Network Cable must be plugged to the computer to work in LAN MODE.*

* Requirements 11 and 12 are necessary to set a connection between EDIBON Classroom Manager and EDIBON Student LabSoft, otherwise EDIBON Student LabSoft will work just in LOCAL MODE.

More details:

www.edibon.com/products/catalogues/en/ICAI.pdf

*Specifications subject to change without previous notice, due to the convenience of improvements of the product.



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Issue: ED01/16
Date: December/2016

REPRESENTATIVE: