

## COLOUR TV TRAINING SYSTEM



**ET-891**

The **ET-891** is an ideal piece of training equipment to teach the operation of colour TV receivers, which allows the student to familiarise himself with the most advanced technological innovations. The tutor includes a fault generation module and a trainer for the I<sup>2</sup>C communications Bus.

The block diagrams of the **ET-891** intuitively shows the different modules which make up the colour TV receiver. Its large number of test points allow the analysis and monitoring of the electric signals in the different functional blocks of the receiver. It is safe to operate since all the test points are protected against possible accidental short-circuits.

Using the fault module it is possible to simulate the most common faults which can occur in the receiver with thus establishing methods of diagnosis and tracing.

Special attention has been paid to its design, obtaining a small-sized functional piece of equipment. Moreover, in its rest position, it can be used as a domestic desktop TV.

### COLOUR TV RECEIVER

- 14" screen
- PAL B/G/I and SECAM B/G/L/L' systems.
- Euroconnector
- Zweiton system
- NICAM audio digital system (PAL G, PAL I, SECAM L)
- Teletext with FLOF function \*
- On screen messages (OSD)
- Tuning by synthesis of manual voltage or autostore through search and automatic memorisation
- Infrared remote control
- Advanced hybrid technology: conventional components and SMD

### BLOCK DIAGRAMS

The block diagrams are composed of the following functional modules:

- Power supply
- IF and demodulator
- Video
- Sound
- Microcontroller

- Teletext
- Deflection

### FAULT SIMULATOR

A set of 48 microswitches allows to cause a large number of failures. These have been divided into the different functional stages of the receiver.

### TUTOR FOR THE I<sup>2</sup>C BUS

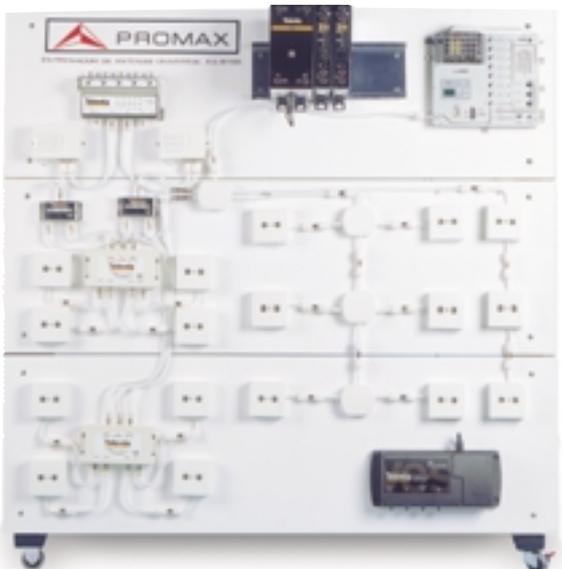
A set of microswitches allows the start and stop bits to be modified, in addition to the words of the data which are sent to the integrated circuits connected. The words received by the ICs are displayed by a series of LEDs.

### DOCUMENTATION INCLUDED

- User's Manual
- Training Manual
- Technical Documentation Manual

## TELEVISION ANTENNA TRAINING SYSTEM

**EA-815**



The **EA-815** Universal Antenna trainer for MATV (Master Antenna Television), SMATV (Satellite Master Antenna Television) and CATV (Cable Television) system is designed for study and training on installations.

The main purpose of the **EA-815** is to enable the student to calculate, install, configure, adjust, alter, analyse and localise breakdowns in distribution networks using:

- Terrestrial television (MATV)
- Analogue and digital satellite television (SMATV)
- Cable television (CATV)

The **EA-815** trainer offers a flexibility which enables an endless number of real MATV, SMATV (analogue and digital) and CATV installations to be reproduced. It is possible to recreate the more common breakdowns and problems the student will come across on the field. It allows him furthermore to test and compare the efficiency of the different solutions available to him.

The student will be able to familiarise himself with the professional equipment used in real installations and advanced instruments.

## TELEVISION ANTENNA TRAINING SYSTEM

## EA-815

The work book presents practical exercises designed to facilitate the learning process. The proposed exercises have the aim of calculating and performing measurements on different types of installations and localising the more common problems which the student will come across in future installations.

The trainer components are laid out on an erasable board, which allows the teacher to draw the configuration of the reception, amplification and distribution system the student has to set up. This diagram will be used by the student as a guide and from it he can easily assemble the installation.

The white board may be used as a note pad by the student to write down the measurements taken beside each component when analysing an installation or trying to localise a breakdown, so that he can immediately determine the attenuation of the each section of the installation.

<b>ANTENNAS</b>	<ul style="list-style-type: none"> <li>- 27 elements UHF antenna (channels 21-69)</li> <li>- Parabolic antenna containing:               <ul style="list-style-type: none"> <li>- Reflector</li> <li>- 1 m OFF-SET</li> <li>- LNB 4 outputs: HBB, VBB, HBA, VBA</li> <li>- Accessories: rods and power accessories</li> </ul> </li> </ul>
<b>MECHANICAL ACCESSORIES</b>	<ul style="list-style-type: none"> <li>- 150 cm mast for terrestrial antenna</li> <li>- 80 cm mast for parabolic antenna</li> <li>- Mobile stand for antennas with wheels</li> </ul>
<b>HEAD END EQUIPMENT</b>	
- MATV	<ul style="list-style-type: none"> <li>- Set of 7 programmable UHF amplifiers</li> <li>- VHF amplifier</li> <li>- Power supply</li> </ul>
- SMATV (analogue and digital) for RF	<ul style="list-style-type: none"> <li>- Programmable IF-UHF (stereo) internal units</li> <li>- Universal programmer</li> <li>- Power supply for internal units</li> </ul>
- SMATV (analogue and digital) for IF	<ul style="list-style-type: none"> <li>- Adjustable IF amplifiers (x4) with terrestrial signal mixing and amplification</li> <li>- Power supplies for LNBS and IF amplifiers</li> </ul>
<b>COLLECTIVE AND INDIVIDUAL MATV DISTRIBUTION</b>	<ul style="list-style-type: none"> <li>- Splitters/combiners</li> <li>- Taps</li> <li>- Through outlets and end outlets</li> <li>- Splitter outlets</li> </ul>
<b>COLLECTIVE AND INDIVIDUAL SMATV DISTRIBUTION (ANALOGUE AND DIGITAL) BY INTERMEDIATE FREQUENCY</b>	<ul style="list-style-type: none"> <li>- IF splitters</li> <li>- H and V commutable IF splitters</li> <li>- IF outlets</li> </ul>
<b>COLLECTIVE AND INDIVIDUAL SMATV DISTRIBUTION (ANALOGUE AND DIGITAL) BY CHANNEL PROCESSING</b>	
<b>MIXED COLLECTIVE AND INDIVIDUAL SMATV DISTRIBUTION</b>	
<b>COLLECTIVE CATV DISTRIBUTION</b>	<ul style="list-style-type: none"> <li>- CATV line amplifier with attenuator, equaliser and pre-emphasiser</li> <li>- Active return channel with gain control</li> </ul>
<b>USER EQUIPMENT</b>	<ul style="list-style-type: none"> <li>- Analogue Tuner</li> <li>- Remote control</li> </ul>
<b>ACCESSORIES FOR AIMING ANTENNAS</b>	<ul style="list-style-type: none"> <li>- Inclinomometer</li> <li>- Compass</li> </ul>
<b>ACCESSORIES AND CABLES</b>	<ul style="list-style-type: none"> <li>- Markers for the white board</li> </ul>
<b>OTHER ACCESSORIES</b>	<ul style="list-style-type: none"> <li>- Load adapters</li> <li>- Bridges</li> <li>- Polarising connector</li> </ul>
<b>DOCUMENTATION</b>	<ul style="list-style-type: none"> <li>- User's Manual</li> <li>- Training Manual</li> <li>- Technical documentation</li> <li>- Assembly instructions</li> </ul>