ELABO TrainingsSysteme
Aus- und Weiterbildung GmbH

Communication Systems

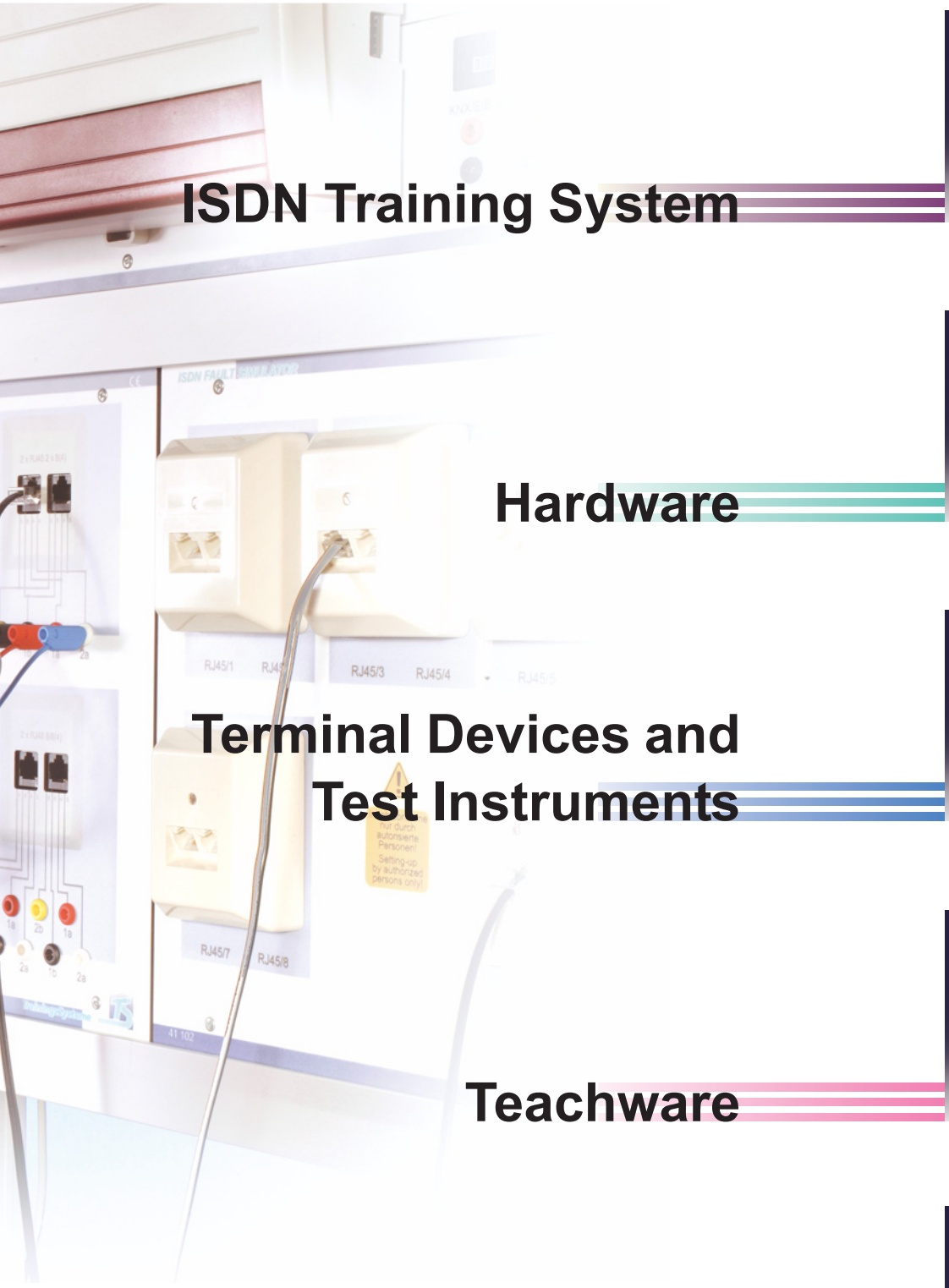
ISDN and analog

www.elabo-ts.com

Configuring and commissioning of ISDN systems

www.elabo-ts.com

ELABOTrainingsSysteme



ISDN Training System

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ISDN Training System

- With many practical experiments for the building communications and building systems technology
- Setup and wiring of telecommunication systems
- Parameterization of telecommunication systems
- Configuration of system telephones
- Setup of an extension system
- Creation of test reports
- Troubleshooting in telecommunication systems
- Connection to house intercoms
- Use of computer telephony integration (CTI)

Project 1:
Installation of an ISDN system in a home

Project 2:
Installation of an ISDN system in a medium-sized business with two digital and four analog telephones

Project 3:
Extension of an ISDN system by a house intercom

Project 4:
Testing the BRI bus of an ISDN system

Project 5:
Commissioning of an analog fax machine and of a notebook for dispatch of faxes

Project process:

- *Customer enquiry*
- *Customer consultation*
- *Order analysis*
- *Order planning*
- *Selection of components*
- *Working process and work preparation*
- *Commissioning*
- *Documentation*

Hardware

ISDN Board ...with the add on KNX EIB

41 130 ISDN Board + KNX / EIB

Learning Objectives:

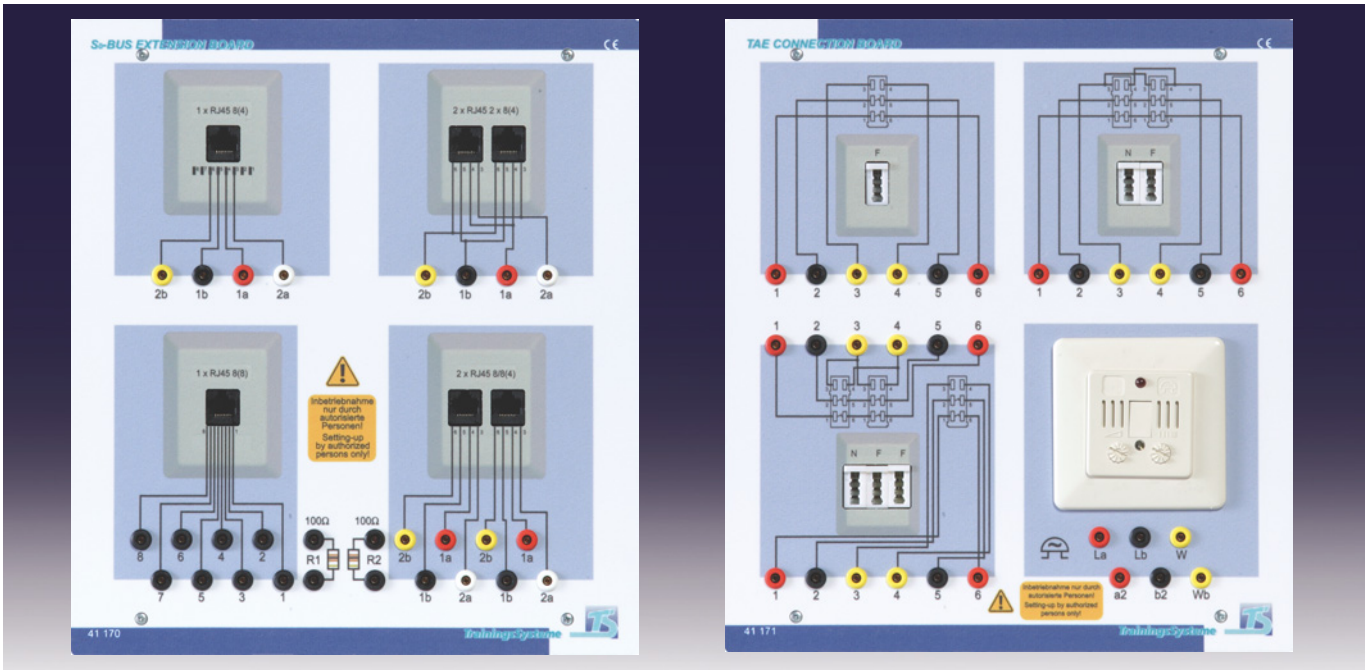
- ✓ Installation, wiring, parameterization and commissioning of communication systems
- ✓ Configuration of system telephones, setup of an ISDN-PBX
- ✓ Troubleshooting in telecommunication systems and creation of test reports
- ✓ Connection to house intercoms

41 131 ISDN Board + KNX / EIB International (41 130 ISDN Board + KNX / EIB)

The PBX systems on the A4-panel are cascadable.
Features:

1 S_0 bus, external via RJ-45 socket (UAE)
1 S_0 bus, internal via two RJ-45 sockets (UAE)
1 hands-free phone interface via analog port
8 a/b connections, 4 of which directly connectable on the board via RJ-12 socket
2 relay outputs on four 2mm safety sockets (30V/0.5A max.)
3 sensor inputs on six 2mm safety sockets, floating
1 KNX/EIB connection
1 USB interface
1 serial interface
- 2 mm safety sockets for connection of S_0, analog units, relay outputs, sensor inputs, KNX/EIB bus
- industrial sockets for connection of S_0, analog units, KNX/EIB
- termination resistors for the S_0 bus
- ISDN software Win. 2000 / XP / Vista (incl. server or client solution)

Extension boards



41 170 S0-Bus Extension Board

41 171 TAE Connection Board

41 170 S0-Bus Extension Board

The S0-Bus Extension Board is designed in the A4 panel system format.

1 universal connector RJ-45 8(8)
3 ISDN connectors, of which:
- RJ-45 2x8(4),
- RJ-45 1x8(4),
- RJ-45 8/8(4)

- Connection of all contacts via 2 mm safety sockets
- Termination resistors for the S0 bus

41 172 RJ-12 Connection Board (41 171 TAE Connection Board)

The RJ-12 Connection Board is designed in the A4 panel system format.

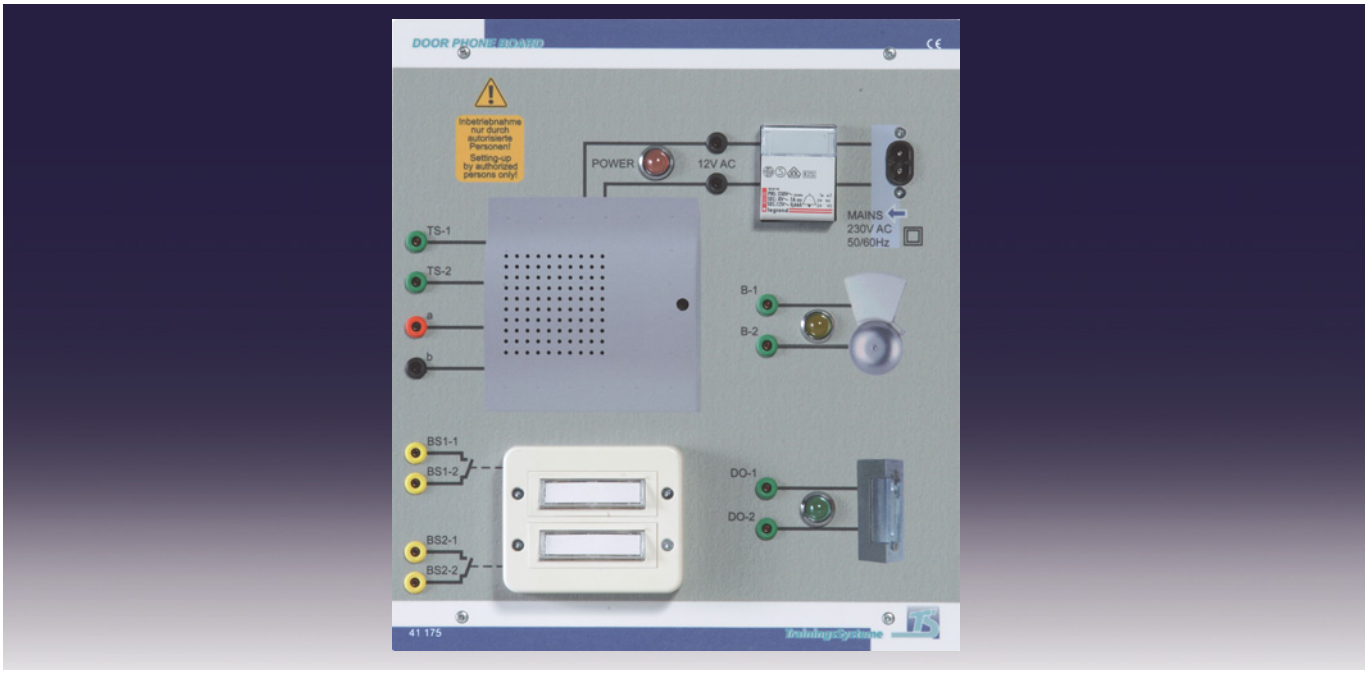
3 RJ-12 connection sockets, of which
- RJ-12 1x6(6),
- RJ-12 6/6(4),
- RJ-12 6/6(6)

1 secondary signal box
- Connection of all contacts via 2 mm safety sockets

Note:
EIB® and KNX® are registered trademarks of the European Installation Bus Association, Brussels and of the Konnex Association.
Microsoft, Windows, Windows 2000, Windows XP and Windows Vista are registered trademarks of the Microsoft Corporation.

Hardware

Door intercom station



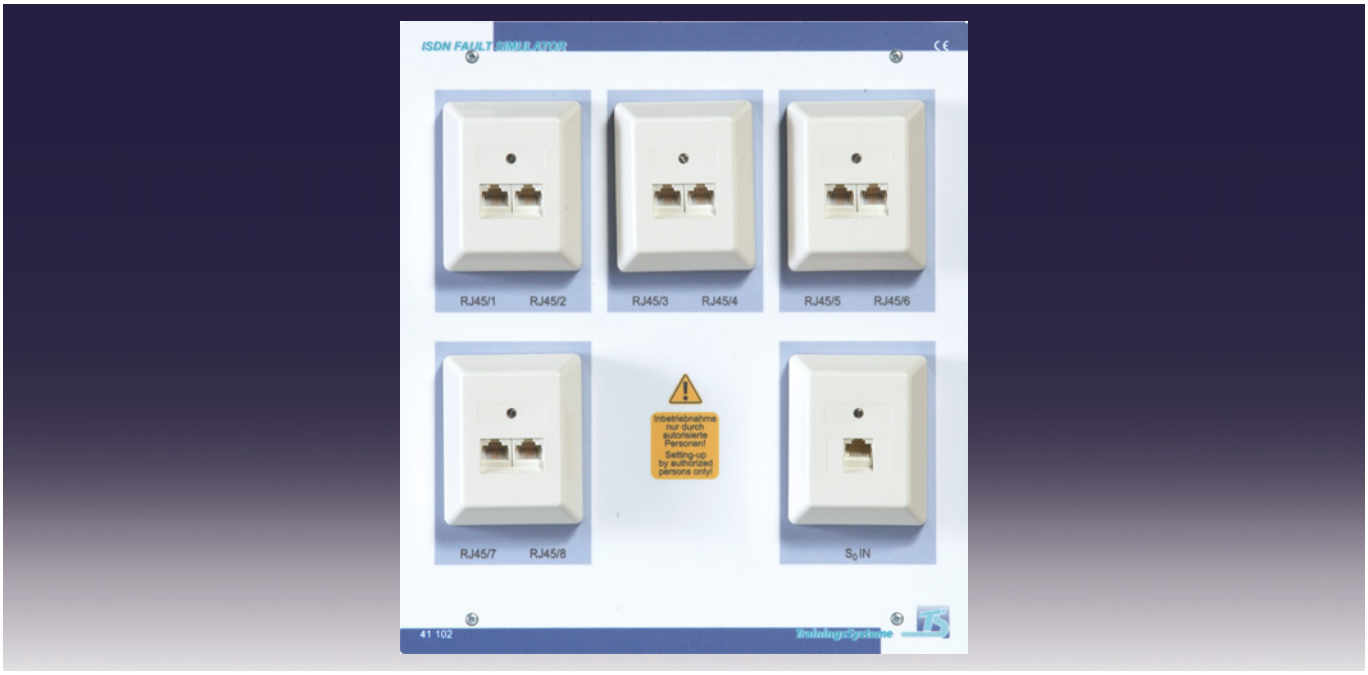
41 175 Door Phone Board

41 175 Door Phone Board

The door intercom station is designed in the A4 panel system format.

- door intercom with floating analog interface
- floating switching contacts
- bell transformer 230V AC 50Hz / 12V AC
- door bell
- door opener

ISDN Fault Simulator



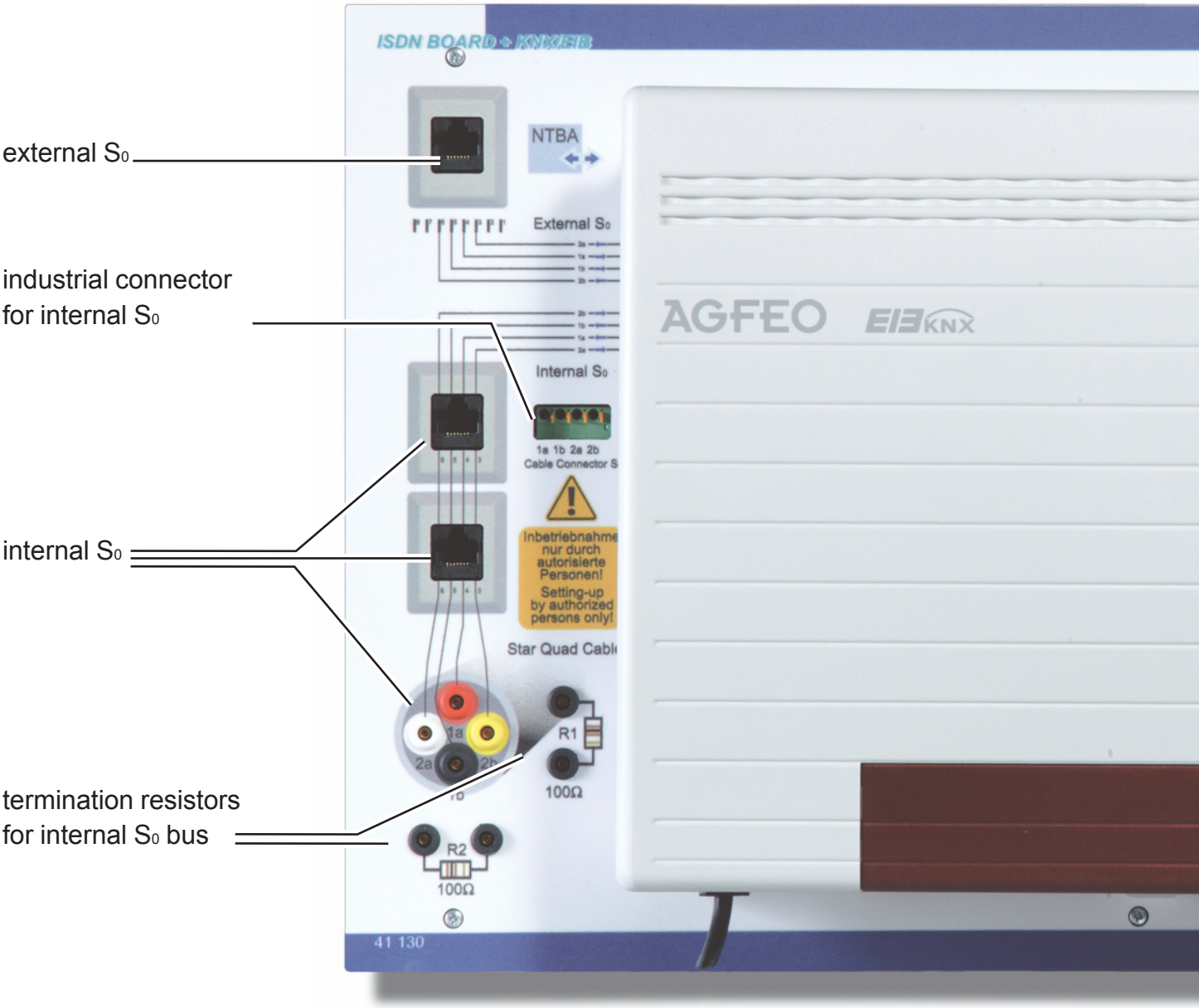
41 102 ISDN Fault Simulator

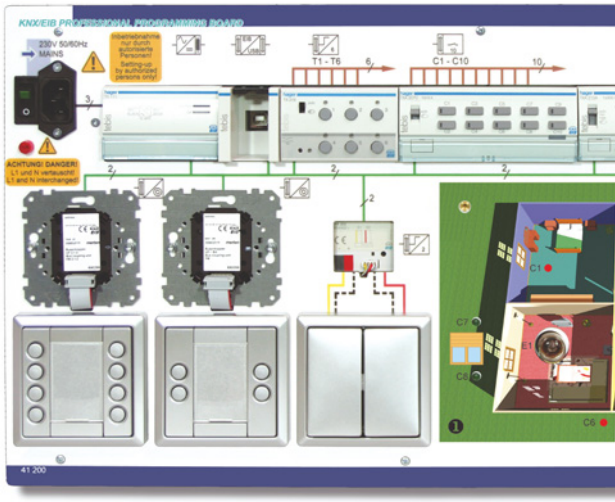
41 102 ISDN Fault Simulator

The simulator of wiring faults is designed in the A4 panel system format.

- Documentation
- Fault list
- Solutions
- System connection cable
- 8 bus connections with the following faults:
  - Wires exchanged
  - Lines exchanged
  - Wire interruption
  - Low level
  - no voltage
  - no termination

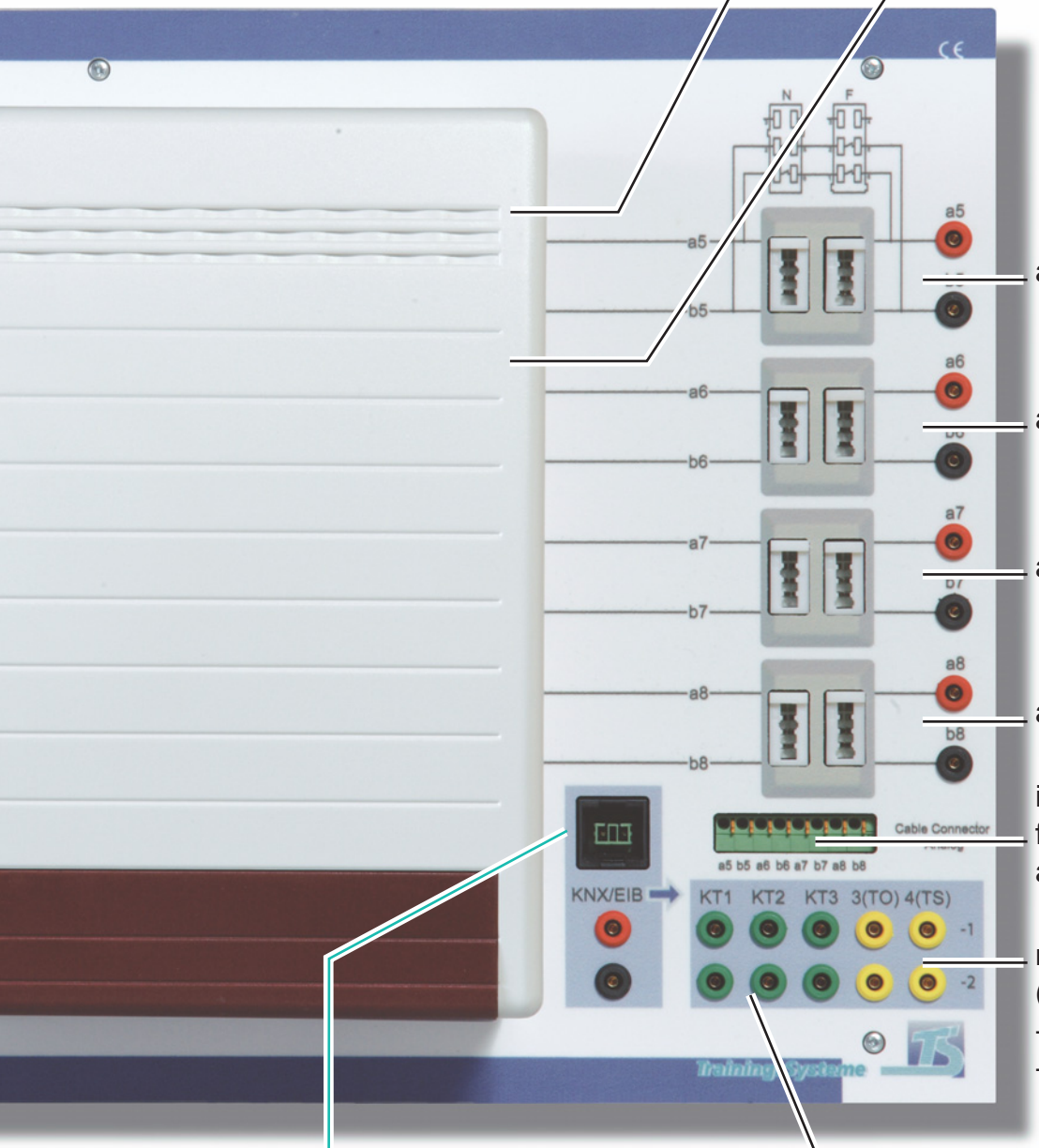
Hardware


external S0
industrial connector
for internal S0
internal S0
termination resistors
for internal S0 bus
ISDN BOARD KNX/EIB
NTBA
External S0
Internal S0
1a 1b 2a 2b
Cable Connector S
Inbetriebnahme nur durch autorisierte Personen!
Setting-up by authorized persons only!
Star Quad Cabl
1a
2a
2b
R1
100Ω
R2
100Ω
AGFEO
EIB KNX
41 130



RS232 connection

USB connection



analog connection a5/b5

analog connection a6/b6

analog connection a7/b7

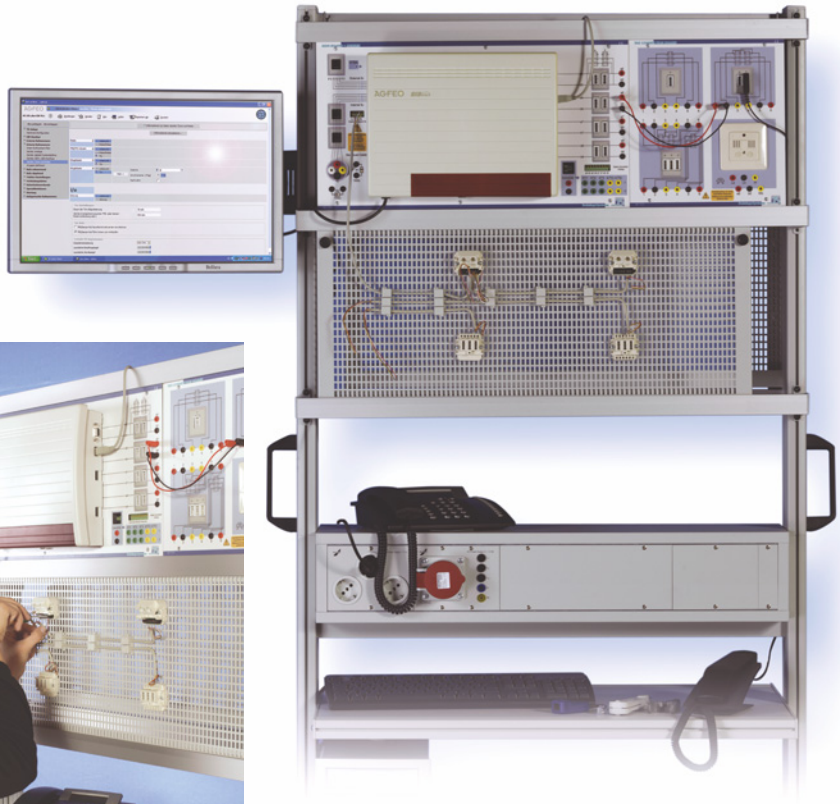
analog connection a8/b8

industrial connector
for analog connections
a5/b5 ... a8/b8

relay outputs
(max. 30V DC/1A):
- door opener
- door intercom control

3 inputs for voltage free
contacts

EIB / KNX bus connector:
to the KNX / EIB Professional Programming
Board e.g.



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PLANNING AND REALISATION OF COMMUNICATION SYSTEMS

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Terminal Devices and Testers

Terminal Devices

41 103 Set of terminal devices

Set of terminal devices consisting of:

- analog convenience telephone
- analog standard telephone
- ISDN convenience telephone with CTI interface
- system telephone for ISDN system with answering machine

41 169 Fax machine for plain paper

Fax machine for plain paper with the following parameters:

- PSTN (public switched telephone network) or PABX
- fax type group 3
- compatibility ITU-T T.30
- plain paper A4

41 109 ISDN quick testing device

Cabling tester for BRI bus for the following tests:

- Display of normal or emergency operation
- Wires exchanged
- Short circuit

ISDN Tester / PC-Software

41 108 ISDN tester incl. accessories

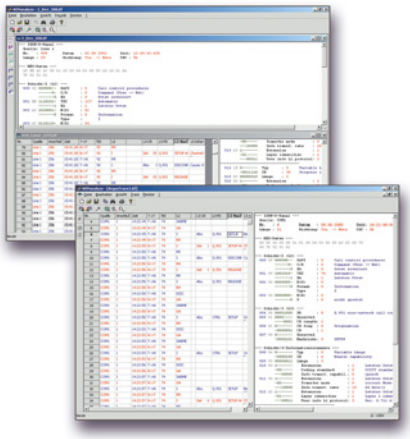
BRI tester with a sophisticated design for BRI, U- and a/b interfaces:

- Passive monitoring
- Exchange simulation
- Support for testing permanent circuits
- Cabling tests
- Voltage and signal level measurement
- BRI interface in TE/NT mode with D-channel monitoring
- BRI and analog interface in TE mode
- CLIP and advice of charges on analog line plus analog monitor
- Cabling test for BRI accesses
- S_0 bus monitor
- S_0 bus recorder

41 107 WINanalyse

PC software:

- Connection test report
- D-channel data
- D-channel decoding
- S_0 bus monitor



41 108 Remote Kit

PC software:

- controlling the tester
- configuring test runs
- starting and evaluating test runs

Teachware

Project orientated training

On paper and on CD!

Teacher manual

Contents:

- Solutions manual for the teacher with methodical recommendations
- Unlimited copyright for educational institutions
- Size: 105 colour pages
- incl. documentation of the devices (100 pages)

Exercises

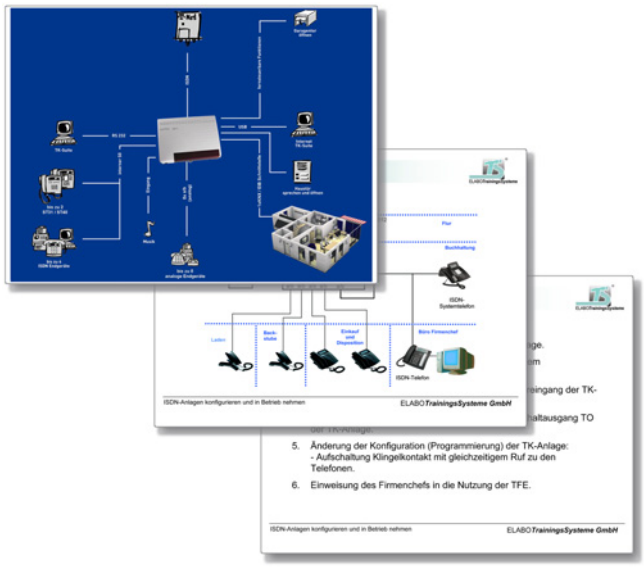
- Project 1: Installation of an ISDN system in a home
- Project 2: Installation of an ISDN system in a medium-sized business with two digital and four analog telephones
- Project 3: Extension of an ISDN system by a house intercom
- Project 4: Testing the BRI bus of an ISDN system
- Project 5: Commissioning of an analog fax machine and of a notebook for dispatch of faxes

E41 140CD Manual "Building communication: Configuring and commissioning of ISDN systems", incl. CD-ROM
Student edition: Project tasks

E41 141CD Manual "Building communication: Configuring and commissioning of ISDN systems", incl. CD-ROM
Teacher edition: Solutions

Student manual / project tasks

Structure of the manual and contents same as in teacher edition, however without solutions and technical documentation



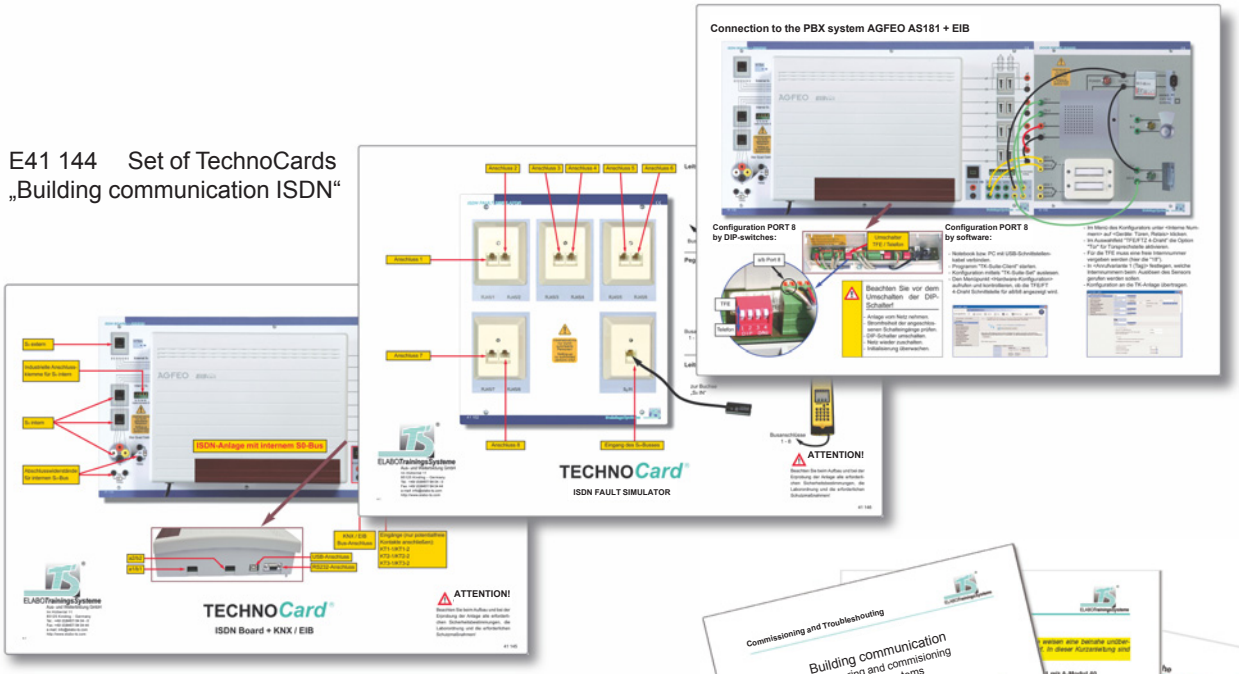
E41 209CD Presentation aids „Building communication“

PowerPoint presentation on the subject of „Configuring and commissioning of ISDN systems“

- Templates for the students for presenting their working results
- Unlimited copyright for educational institutions
- 49 transparencies
- on CD-ROM

Technocards are display sheets with colored illustrations giving assistance in how to use the devices.
They show the essential operating elements, the in- and outputs of the devices, a short function description and safety instructions.

E41 144 Set of TechnoCards
„Building communication ISDN“



Commissioning and Troubleshooting

- Commissioning of the ISDN systems from the PC
- System integration of KNX / EIB
- Installation of the driver software and the software „TK-Suite“
- Basic configuration for internal connections
- Restoring default settings
- Use of the door intercom
- Programming the answering machine
- Operating the different answering machines
- Use of computer telephony integration (CTI)

E41 142CD Manual „Commissioning and Troubleshooting“

Information and Consultation

Consultation

- Selection of products complying with syllabuses
- Comprehensive system determination
- Service-Center – we will call you back and support you in planning and project development
- Classroom layout concepts
- Ergonomic workplace design
- Joint compilation of offers
- Information about our products / manuals
- Planning of seminars

Where this catalogue ends, we start consulting...

Experience

- Comprehensive range of innovative products, systems and solutions
- Quality service from first consultation to delivery and beyond
- Trainer-seminar / Inhouse-trainings
- Projects and references:
  - Industrial training institutions
  - Vocational schools / technical colleges
  - Chambers of commerce
  - Academies / universities

We will help you ...

- **in all questions concerning the equipment for vocational technical education**
- **on site**
- **over the telephone**

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We request for:

❑ Contact by telephone

❑ Contact by mail

❑ Consultation on site ❑ yes ❑ no

Name, position

Company / institution / authority

Street, PO Box

Post code, town/city, country

Telephone, telefax

E-mail

Please send us an offer for:

Part No.	Quantity	Designation / Title
❑ 41 131		ISDN Board + KNX / EIB international (page 4)
❑ 41 170		S_0-Bus Extension Board (page 5)
❑ 41 172		RJ-12 Connection Board (page 5)
❑ 41 175		Door Phone Board (page 6)
❑ 41 102		ISDN Fault Simulator (page 7)
❑ 41 103		Set of terminal devices (page 12)
❑ 41 169		Fax machine for plain paper (page 12)
❑ 41 108		ISDN tester incl. accessories (page 13)
❑ 41 107		WIN analyse (page 13)
❑ 41 106		Remote Kit (page 13)
❑ 41 109		ISDN quick testing device (page 12)
❑ 90 005		Set of safety measuring leads, 2 mm
❑ **E**91 904		Set of ETS ring binders (page 14)
❑ **E**41 140CD		Manual "Configuring of ISDN systems", Student edition (page 15)
❑ **E**41 141CD		Manual "Configuring of ISDN systems", Teacher edition (page 14)
❑ **E**41 142CD		Commissioning and Troubleshooting Manual (page 15)
❑ **E**41 143		Presentation aids for Building communication ISDN (page 15)
❑ **E**41 144		Set of TechnoCards for Building communication ISDN (page 15)

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