EURACOM®

141F ⏀ 18xF ⏀ 26xF ⏀ 141 ⏀ 18x ⏀ 26x
Configuration manual for PABX systems

ACKERMANN
Systems - that connect

Important notes to start with

Our contribution to environmental protection

- This instruction manual is printed on chlorine-free paper.
- All plastic parts of your PABX consist of fully recyclable material (PC+ABS-FR).

Attachment to EURACOM Manuals

- Supplementary Services, mentioned in the documentation, may not be abvailable in all countries and areas. Please consult your local distributor for further informations and for assistance.

- Description of Least Cost Routing (LCR) functionality (--> pag. 74 - 79) is based on implementation for Germany. Due to the fact, that not all countries offer the possibility of network provider selection by the subscriber on a call-by-call basis, the described routing algorithm and assigned procedures may not be available in your country.

- Caller-ID, showing the caller number on the display of an analogue telephone or a separat monitor, is dependent at least from two major basic requirements:

  1. Telephone with Caller-ID implementation according to ETS 300 659-1. Implementation is according to German standard with FSK-transmission between first and second ringing signal, using no polarity reversal methode.

  2. Advice of charge (AOC-D) (--> „User manual" pag. 64) during connection has to be switched by your network provider (normally has to be applied for separately) and has to be activated in your EURACOM by the subscriber.

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By purchasing the Ackermann EURACOM 141F, 18xF, 26xF or EURACOM 141, 18x, 26x ISDN PABX, you have decided in favour of a high-quality and future-compatible product. This system provides all the advantages of the digital Euro-ISDN network (DSS1) when connected to a multiple subscriber – or PABX connection while allowing you to continue using existing analog terminal devices.

Thanks to the update capability of this system – either via software in the case of the EURACOM 141F, 18xF, 26xF or by replacing the program module in the case of the EURACOM 141, 18x, 26x – you can comfortably make use of the features of modern digital communication not only today, but also tomorrow.

And our development work continues. **Which is why the manufacturer reserves the right to change hardware and software specifications, as well as the operating instructions, without prior notice.**

Before you start

Please read through these operating instructions carefully, so that you can utilise the options provided by your new PABX to the full. And if you encounter a technical term with which you are unfamiliar, an index of keywords can be found in Chapter 6. Indeed, a comprehensive document package has also been included with your PABX. This includes:

- Installation instructions
- Configuration instructions
- User instructions

The „Configuration" instructions which you are currently reading describe step-by-step how to configure your PABX to match your needs in an optimum way.

Key to symbols

This symbol indicates that the following configuration can be performed comfortably using the PC configuration program.

Configuring the PABX – An overview of all steps

Mandatory steps

The basic configuration must be performed for the ISDN PABX in all cases. All operating data required for using your ISDN BRI (Basic Rate Interface) are configured in this context, such as:

- PABX operating mode
- Country and area code
- ISDN connection mode
- Length of direct dial number in case of PABX connection
- Internal analog and digital terminal numbers
- Call distribution

However, you can also use the Plug & Go functions (—> Page 10 ff.). Part of the basic configuration work can then be dispensed with and just a few programming steps are needed to render the exchange ready for operation, together with the user-defined basic settings.

Other things you can do

The advanced configuration option allows you to configure your PABX specifically to match your needs, and includes the following functions:

- Assigning authorisations
- Specifying barred and free numbers
- Configuring Pick-Up groups
- Configuring control elements, etc.

1. Plug & Go

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The advantages of Plug & Go

When you connect the PABX as delivered to the network of your network provider, it will detect the type of connection automatically. The PABX then automatically sets itself to PABX or multiple subscriber mode at ISDN Port 1. If PABX connection modes detected, the PABX performs an automatic reset in order to adopt the new settings. A renewed clicking sound from your PABX indicates this procedure. With this setting, you can be reached immediately in the event of an incoming call and can initiate calls yourself at all times. Simply dial a „zero" before the number. Your PABX also accepts all incoming calls and indicates these calls at all available telephones. In PABX mode, direct dialling to another extension is also possible (depending on the exchange).

In order for your PABX to be able to handle the calls to the various numbers in different ways, the preconfiguration can be extended in just a few programming steps, with the PABX being informed of the area code and required call number(s). In case of a PABX connection, the PABX direct dialling in numbers are signalled for the specific subscribers and the central call at all telephones. In case of a multiple subscriber configuration, the first three MSNs entered are signalled according to the following table:

EURACOM 260F, 261F, 262F:	MSN 0	subscriber 11-15
EURACOM 260, 261, 262:	MSN 1	subscriber 16
	MSN 2	subscriber 21-24
EURACOM 180F, 180:	MSN 0	subscriber 11-14
	MSN 1	subscriber 18
	MSN 2	subscriber 15-17
EURACOM 181F, 182F	MSN 0	subscriber 11-16
EURACOM 181, 182:	MSN 1	subscriber 18
	MSN 2	subscriber 21-24
EURACOM 141F, 141:	MSN 0	subscriber 11-13
	MSN 1	subscriber 14
	MSN 2	subscriber 21-24

An overview of Plug & Go

1. PABX detects connection type automatically.
2. Regardless of whether PABX or multiple subscriber mode: enter area code.
3. For PABX mode: Enter call number of your PABX connection
   For multiple subscribers mode: Configure at least three MSNs

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NOTE!

Please refer to the Chapter entitled „Factory settings" (—> page 97 ff.) for the factory settings of your PABX.

How to configure the basic settings using a telephone:

Configuring the system for multiple subscriber mode

⌗ ✳	Initiate programming.
0 1 1	Enter code.
e.g. 6 8 3 8	Enter area code (= the access code for your local network without the „zero" prefix).
⌗ ♩	Terminate programming. You have now specified the area code.

Enter MSN for multiple subscriber mode

⌗ ✳	Initiate programming.
0 2 0 1	Enter code.
e.g. 0	Enter MSN code.
	0 for MSN 0, 1 for MSN 1, 2 for MSN 2
e.g. 0	Enter code for ringing tone:
	0 Standard external call
	1 Code call 1
	2 Code call 2
	3 Code call 3
	4 Code call 4
✳	Press ✳ button.
e.g. 4 7 1 1	Enter subscriber number.
⌗ ♩	Terminate programming. You have now specified **one** MSN. Repeat this procedure to configure the second and third MSNs.

Configuring the system for PABX connection mode

⌗ ✳	Initiate programming.
0 1 1	Enter code.
e.g. 6 8 3 8	Enter area code (= the access code for your local network without the „zero" prefix).
⌗ ♩	Terminate programming.

Entering call numbers of your PABX connection

⊞ ✳	Initiate programming.
0 2 1 1	Enter code.
e.g. 0	Enter code for ringing tone:

    0   Standard externnal call
    1   Code call 1
    2   Code call 2
    3   Code call 3
    4   Code call 4

✳	Press ✳ button.
e.g. 4 7 1 1	Enter call number of your PABX connection without the direct dial prefix „zero" for your network provider.
⊞ ♫	Terminate programming.

Preconfiguring the system without connecting to your provider's network

You can also perform the preconfiguration for multiple subscriber – or PABX connection if you are not yet connected to the network of your local network provider. In the case of a PABX connection, the following two procedures must also be carried out:

⊞ ✳	Initiate programming.
0 0 5 1 2	Enter code.
⊞ ♫	Your PABX is now set to PABX connection mode at Port 1, without needing to be connected to your network provider's network.
⊞ ✳	Initiate programming.
9 9 9 9	Enter code.
⊞	Terminate programming. This marks acceptance of the settings for PABX connection mode (Reset).

2. Make the most of your PC

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The advantages of using a PC

If you have a PC, we recommend using it to configure your PABX. The scope of delivery includes a CD-ROM with numerous useful programs, one of which is a configuration program. With this program, you can configure your PABX easily and quickly. The program is structured in an intuitive and self-explanatory manner, so that you can set the basic configuration of your PABX or change the settings without any great need for prior knowledge. The program contains a comprehensive help function that provides extensive help and detailed information on various issues and problems. All functions are explained in detail and provided with useful background information.

Minimum system requirements

Your PC should fulfil the following minimum system requirements:
- Windows 95 / 98 or Windows NT operating system
- CD-ROM drive
- Hard disk
- VGA graphic card capable of generating resolutions of 640 x 480 or 800 x 600 for the CTI program
- Monochrome monitor
- RS-232C interface (as a minimum) or ISDN adapter card

Connecting the PC and PABX

Using a corresponding cable (included in the scope of delivery), you can connect your PABX to your PC via the RS-232C interface. You can match the interface parameters of your PABX to the parameters of your PC (—> Page 44).

If you use a EURACOM P4 telephone, you can also connect your PC to the telephone and configure the PABX via an internal S0-Bus and the telephone.

If you have an ISDN adapter card, you can also configure the PABX via this card. Connect the ISDN adapter card to an internal ISDN interface of the PABX and select the ISDN card as the interface in the PC configuration program under „Options – ComPort". Because all ISDN cards are different, information on those cards tested by us is available on our Internet homepage (http://www.ackermann.com).

Installing the PC program

► Insert the CD supplied with the PABX into the corresponding drive of your PC.
► The program starts automatically upon inserting the CD. Select the corresponding option on the start screen. The program will now guide you through the necessary steps.

Further information on installing the PC program can be found in the file README.TXT on the CD-ROM. In addition to the configuration program for your PABX, a call-charge analysis program and the CTI application can also be installed. More detailed information on these options is given in the corresponding chapters of this manual.

Configuring the EURACOM – An overview of all steps

Absolutely all settings for your PABX can be modified via the PC. When configuring your PABX for the first time, proceed as described below. More detailed information on the individual settings can be found in the section entitled „Basic configuration via a telephone". Furthermore, the PC program also contains a detailed online help function.

► Start PC configuration program.
The start screen shown on the left now appears. All settings can be adjusted via the individual menu items.

► Select menu item:
Configuration -> System configuration.

The input window shown on the left now appears.
► Enter the country code and area code.
► Confirm your entry by clicking on „End"

► Select menu item:
Configuration -> Basic configuration
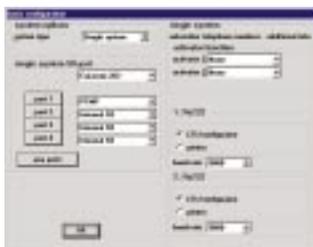
The input window shown on the left now appears. Here, you can enter all other basic configuration data proceed as follows:
► Select the PABX mode.
► Set the PABX type.
► Select port.
► Enter the data for the selected port.
► Enter the remaining data, insofar as applicable.

You have now performed the basic configuration for your PABX. If desired, you can now browse through the other menu items and set additional functions, such as configuring the individual terminal devices.

Help function for PC configuration program

If you are unsure as to what has to be entered for the individual menu items, call up the online help for that menu item:

► Press key „F1" on your keyboard.
The window shown on the left now appears. In order to obtain information pertaining to a specific field, click on that field with the left mouse button.

Recording and analysing call charges

By means of the call-charge analysis program, you can conveniently analyse the individual call-charge data records. The program provides the following features:

- Analysis of the number of calls made
- Total number of call units determined
- Call duration
- Total call-charge for a specific period
- Create telephone book
- Create project groups
- Project-specific analysis

The program contains an extensive help function that can prove very useful in the event of questions or problems. All functions are explained in detail and provided with useful background information.
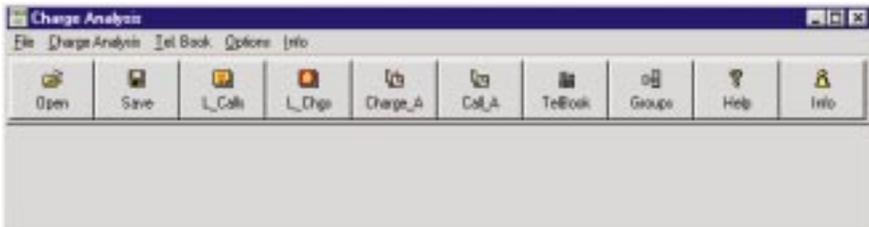
Computer Telephony Integration (CTI) with your PC

CTI (**C**omputer-**T**elefon-**I**ntegration) means the integration of a switchboard on your PC, which considerably facilitates the use of your telephone and PABX.
You can utilise the individual telephone and advanced exchange functions of your PABX via a graphic user interface on the PC.
The following functions, among others, are available in this context:

- Electronic telephone book / Speed-dialling list (telephone number management)
- Computer assisted dialling, all exchange functions and redialling
- Call logs / reports
- Calling list
- Recording of call-charges incurred
- Busy monitor (subscribers and exchange lines)

3. Basic settings via telephone

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Notes on operation

You can only configure your PABX via an analog telephone with dualtone multiple frequency (DTMF) dialling or an ISDN telephone with master authorisation. The factory settings for master authorisation are as follows:

EURACOM 260F, 261F, 262F and EURACOM 260, 261, 262
- Connections 1 to 5, MSN 11 to 15
- S_0-Port 2, 20 to 24
- S_0-Port 3, 30 to 34
- S_0-Port 4, 40 to 44

EURACOM 180F, 181F, 182F und EURACOM 180, 181, 182
- Connections 1 to 6, MSN 11 to 16
- S_0-Port 2, 20 to 24
- S_0-Port 3, 30 to 34

EURACOM 141F, 141
- Connections 1 to 3, MSN 11 to 13
- S_0-Port 2, 20 to 24

► Always adhere to the following procedure when programming the configuration data:

# ✳	This key-combination initiates programming.
e.g. 0 0 4	Then enter the code for the function you wish to program.
e.g. 1	You will then often have to enter a parameter.
# ♪	Terminate programming by pressing the # key. If you have done everything correctly, you will hear a positive acknowledgement tone (peeeeeep). The function has now been configured. A negative acknowledgement tone (peep peep peep) indicates that you have made a mistake and must perform the programming anew.

NOTES!

- Enter # ✳ 0 0 0 0 # to reset the factory settings.
- Enter # ✳ 9 9 9 9 # (=PABX Reset) to render the changes valid.

Configuring the basic settings for the ISDN connection

First of all, configure the connection of your EURACOM to the ISDN connection.

> To this end, you must have „Master Authorisation" (default upon delivery). Also make sure you have the information on your connection provided by your telephone company on hand.

Proceed as follows:
- Enter country and area codes
- Specify the operating mode
- Specify the port type for S_0-Ports
- Enter the type of ISDN connection
- Configure the connection (multiple subscriber or PABX connection)
- Set the length of the direct dial-in numbers
- Configure the central call number

Configuration program
Configuration-> System configuration

Enter country code

The country code is the respective national access code without the prefix „zero". The factory setting is 44 (=Great Britain). When using the PABX in other countries, change the country code as follows:

# *	Initiate programming.
0 1 0	Enter code.
e.g. 4 1	Enter country code, e.g. 41 for Switzerland.
# ♪	Terminate programming. You have now specified the country code.

Enter area code

The area code is the respective local loop dialling code for where the exchange is located, without the prefix „zero". Enter the area code as follows:

# *	Initiate programming.
0 1 1	Enter code.
e.g. 1 8 1	Enter area code, e.g. 181 for London.
# ♪	Terminate programming. You have now specified the area code.

NOTE!

The area code may have a maximum of five digits.

Specifying the basic configuration for the ISDN connection

Configuration program
Configuration --> Basic configuration

Specifying the operation mode

`#` `*`	Initiate programming.
`0` `0` `4`	Enter code.
e.g. `1`	Enter code for desired operating mode:
	- Single system: `1`
	- Direct sub-system: `2`
	- Remote sub-system: `3`
	- Networked `4`
`#` ♪	Terminate programming. You have now specified the operating mode
`#` `*` `9` `9` `9` `9` `#`	Perform a system RESET to ensure the parameters are adopted.

NOTES!

Single system: Direct connection to public network
Direct sub-system: Connection to internal S0-Port of a main system
Remote sub-system: Connection to public network
Networked: Connection to another EURACOM PABX. EURACOM 141F, 141 can not be networked with a second EURACOM 141F, 141

Specifying the type of port for the S_0-ports

`#` `*`	Initiate programming.
`0` `0` `6`	Enter code.
e.g. `1`	Enter ISDN port number:
	EURACOM 262F, 262: 1, 2, 3 or 4
	EURACOM 182F, 182, 261F, 261: 1, 2 or 3
	EURACOM 181F, 181, 260F, 260: 1 or 2
	EURACOM 141F, 141,180F, 181: always 1
e.g. `1`	Enter code for desired port type:
	- Not available `0`
	- External `1`
	- Internal `2`
	- Network as slave `3`
	- Network as master `4`
`#` ♪	Terminate programming. You have now specified the operating mode.
`#` `*` `9` `9` `9` `9` `#`	Perform a system RESET to ensure the parameters are adopted.

Specifying the type of ISDN connection

You must configure your PABX according to the ISDN connection of your network provider. As a rule, a distinction is made between two types of connection:
1. Multiple subscriber connection: In the case of a multiple subscriber connection, the network provider usually assigns you 3 (max. 10) multiple call numbers (MSN).
2. PABX connection: If you have a PABX connection, then you generally only recei ve one call number from the network provider, the so-called PABX call number.

Both types of connection (multiple subscriber connection and PABX connection) are so-called Basic Rate Interfaces (BRI). The next Chapter explains how to define your BRI.
Here, you specify whether you have a multiple subscriber connection or a PABX connection and then configure your connection according to the connection type, e.g. multiple subscriber or PABX connection.

Configuration program
Configuration-> Basic configuration

Configuring your ISDN Basic Rate Interface

⌗ ✳	Initiate programming.
0 0 5	Enter code.
e.g. 1	Enter ISDN port number:
	EURACOM 262F, 262: 1, 2, 3 or 4
	EURACOM 182F, 182, 261F, 261: 1, 2 or 3
	EURACOM 181F, 181, 260F, 260: 1 or 2
	EURACOM 141F, 141,180F, 181: always 1
e.g. 2	Enter the type of connection:
	- multiple subscriber: 1
	- PABX: 2
⌗ ♪	Terminate programming. You have now configured your BRI.

Configuring an ISDN multiple subscriber connection

# *	Initiate programming.
0 2 0	Enter code.
e.g. 1	Enter ISDN port number:
	EURACOM 262F, 262: 1, 2, 3 or 4
	EURACOM 182F, 182, 261F, 261: 1, 2 or 3
	EURACOM 181F, 181, 260F, 260: 1 or 2
	EURACOM 141F, 141,180F, 181: always 1
e.g. 9	Enter MSN index (0 to 9).
e.g. 3	Set ringing tone
	- Standard, external: 0
	- Code call: 1 to 4
*	Press * button.
e.g. 1 2 3 4	Enter MSN.
# ♫	Terminate programming. You have now configured your multiple subscriber connection.

NOTE!

Multiple subscriber connection: You will have received up to ten multiple call numbers (MSN) from your telephone company. Enter these MSNs.

Configuring an ISDN PABX connection

In the case of an ISDN PABX connection, you receive a PABX call number and a block of direct dial-in numbers from your network provider. The PABX call number, together with a direct dial-in number, represents the call number of a particular subscriber. This subscriber can be called directly, which is referred to as direct-dialling-in. The direct dial-in block can contain numbers with one or more digits. As your internal subscribers are configured with two-digit numbers, you require a two-digit block of DDI numbers (00 - 99). If you have only received a single-digit DDI block from your network provider (0 - 9), you must indicate to the PABX which internal subscriber is available under which single-digit DDI number by means of assignment. In the public call telephone directory, your connection is listed without DDI numbers. In this case, 0 is usually listed for the switchboard. If you do not have a complete block (00 – 99) at your disposal, you can assign the switchboard number any digit of your DDI number block. However, in this case, all other DDI numbers beginning with this digit cannot be used.

For example: You have received the number 4711 with the DDI number block 50 - 99. You can now assign the number 5 to the switchboard. In this case, the DDI numbers 50 – 59 are all picked up at the switchboard. The telephone book listing in this case would be 4711-5. The central call also signals all other terminal devices included in the current call distribution profile. In order to distinguish the central call from a DDI call, you can assign one of five different ringing tones to the central call.

# ∗	Initiate programming.
0 2 1	Enter code.
e.g. 1	Enter ISDN port number: EURACOM 262F, 262: 1, 2, 3 or 4 EURACOM 182F, 182, 261F, 261: 1, 2 or 3 EURACOM 181F, 181, 260F, 260: 1 or 2 EURACOM 141F, 141,180F, 181: always 1
e.g. 3	Set ringing tone - Standard, external: 0 - Code call: 1 to 4
∗	Press ∗ button.
e.g. 5 4 3 2 1	Enter PABX call number (without area code and without the last digit - usually the „zero").
# ♪	Terminate programming. You have now configured your PABX connection.

NOTE!

PABX connection: You have received a PABX call number. Each internal
subscriber can be called directly via his/her direct dial-in number.

Specifying the length of the direct dial-in numbers for a PABX connection

Here, you can specify whether the direct dial-in numbers for your PABX connection
are single-digit or two-digit:

# ∗	Initiate programming
0 0 7	Enter code.
e.g. 1	Enter ISDN port number: EURACOM 262F, 262: 1, 2, 3 or 4 EURACOM 182F, 182, 261F, 261: 1, 2 or 3 EURACOM 181F, 181, 260F, 260: 1 or 2 EURACOM 141F, 141,180F, 181: always 1
e.g. 2	Enter length of direct dial-in number: - one digit: 1 - two digits: 2
# ♪	Terminate programming. You have now specified the length of the direct dial-in number. In the case of single-digit direct dial-in numbers, you now have to assign the direct dial-in numbers to the two-digit subscriber call numbers (--> next page).

3 Basic settings via telephone

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In the case of single-digit direct dial-in numbers

Assign the single-digit direct dial-in numbers to the two-digit subscriber call numbers:

⊞ ✳	Initiate programming
0 2 3	Enter code.
e.g. 1	Enter ISDN port number:
	EURACOM 262F, 262: 1, 2, 3 or 4
	EURACOM 182F, 182, 261F, 261: 1, 2 or 3
	EURACOM 181F, 181, 260F, 260: 1 or 2
	EURACOM 141F, 141,180F, 181: always 1
e.g. 9	Enter direct dial-in number input (1 to 9)
e.g. 1 3	Enter user call number (10 to 99).
⊞ ♪	Terminate programming. You have now specified the assignment.

NOTE!

- The length of the direct dial-in number is specified by your network provider.
- In order to delete the single-digit direct dial-in numbers, proceed as follows:
  – Single direct dial-in numbers:
    ⊞ ✳ 0 2 3 **ISDN-Port   direct dial-in no.** ⊞
  – All direct dial-in numbers:
    ⊞ ✳ 0 2 3 0 ⊞

Specifying the central call number for a PABX connection

Specify the number for the central call:

⊞ ✳	Initiate programming.
0 1 3	Code for the „central call" function.
e.g. 5	Number for the central call.
⊞ ♪	Terminate programming. You have now specified the central call number.

NOTE

In order to reset the central call number to the default value 0, repeat the process and enter 0 as the number.

Basic configuration for internal subscribers

Specifying internal analog call numbers

You can assign the internal analog ports any two-digit call number in the range of 10-99. The respective connection is then available internally via this number. If you have a PABX connection, an external subscriber must dial the PABX call number and corresponding DDI number, instead of the central call number. In the case of a multiple subscriber connection, the internal numbers are assigned to the multiple call numbers (MSN). The following procedure is used to assign the subscriber call numbers of an analog interface:

# *	Initiate programming
0 4 1	Enter code.
e.g. 3	Enter number of the analog interface.
	EURACOM 260F, 261F, 262F,
	260, 261, 262: 1 to 6
	EURACOM 180F, 181F, 182F,
	180,181, 182: 1 to 8
	EURACOM 141F, 141: 1 to 4
e.g. 5 5	Enter internal call number (10 bis 99).
# ♪	Terminate programming. You have now specified the assignment.

NOTES!

- The subscriber call number which you assign to an interface may not already have been assigned. If it is, you will hear a negative acknowledgement tone.
- When entering a set of call numbers, the port is incremented automatically.

Specifying internal digital call numbers

You can assign a maximum of 10 call numbers to an ISDN connection of your PABX. The 1st number entered is considered to be the collective call number of the internal ISDN port. The collective call number can be dialled internally or externally. You can thus reach all subscribers on this ISDN port. The call numbers which you configure here in this case must subsequently also be programmed into the respective terminal device (e.g. ISDN telephone, ISDN-PC) as multiple subscriber numbers (MSN). Depending on the terminal device, you can also assign these subscribers several call numbers. A subscriber can thus be reached under several call numbers, for instance. In order to operate an ISDN port, proceed as follows:

- Specify ISDN port as internal multiple subscriber connection (only required with EURACOM 260F, 261F, 262F, 260, 261, 262 and EURACOM 181F, 182F, 181, 182).
- Assign internal two-digit call numbers to the ISDN port.

Defining the ISDN port as an internal multiple subscriber connection

(Two programming steps)
Only EURACOM 260F, 261F, 262F, 260, 261, 262 and
EURACOM 181F, 182F, 181,182

⊞ ✳	Initiate programming.
0 0 6	Enter code.
e.g. 2	Enter ISDN port number: EURACOM 262F, 262: 1, 2, 3 or 4 EURACOM 182F, 182, 261F, 261: 1, 2 or 3 EURACOM 181F, 181, 260F, 260: 1 or 2 EURACOM 141F, 141,180F, 181: always 1
2	Enter 2.
⊞ ♪	Terminate programming step 1. You will hear an acknowledgement tone.
⊞ ✳	Initiate programming.
0 0 5	Enter code.
e.g. 2	Enter ISDN port number: EURACOM 260, 261, 262: 2, 3 or 4 EURACOM 180, 181, 182: 2 or 3
1	Enter 1.
⊞ ♪	Terminate programming step 2. You have now defined the ISDN port as an internal multiple subscriber connection.

Assigning internal two-digit call numbers to an ISDN port

⊞ ✳	Initiate programming.
0 4 2	Enter code.

e.g. 2	Enter ISDN port number:
	EURACOM 260F, 261F, 262F,
	          260, 261, 262: 2, 3 or 4
	EURACOM 181F, 182F,
	          181, 182: 2 or 3
	EURACOM 141F, 141: always 2

e.g. 4 5	Enter internal call number. You can also enter several call numbers consecutively.
♪	You hear an acknowledgement tone.
⊞ ♪	Terminate programming.

NOTE!

If 10 call numbers have already been entered per ISDN port, you will hear a
negative acknowledgement tone for each additional call number you enter. Delete
the call numbers in such cases and subsequently enter the desired subscribers.

Deleting assigned internal call numbers

⊞ ✱	Initiate programming.
0 4 0	Enter code.
e.g. 4 5	Enter internal call number. You can also enter several call numbers consecutively. 0 0 Delete all call numbers currently assigned (exception: telephone used for programming).
♫	You hear an acknowledgement tone.
⊞ ♫	Terminate programming.

NOTE!

If the call number of an internal connection is deleted, subscribers can no longer call this connection. The call number must be assigned anew in this case.

Special case: Call numbers 98 and 99 (# and #✱)

Some ISDN telephones cannot transmit the characters # and ✱ as dialling digits. For such cases, you can reserve the numbers 98 and 99 as replacement digits. In place of the character #, enter 98 in dialling mode. In place of the character sequence #*, enter 99 and perform the following procedure in the prepare-for-dialling mode (receiver cradled). Complete the procedure by picking up the receiver. You will then hear an acknowledgement tone. You cannot use this replacement function together with automatic activation of external line, as the dialling digits are transmitted to the network provider automatically in this case and not analysed by the PABX.

Configuration program
Configuration-> System configuration

Reserving internal call numbers 98 and 99 for # and #✱

⊞ ✱	Initiate programming.
7 5 1	Enter code for number reservation.
⊞ ♫	Terminate programming. You have now reserved these numbers.

Cancelling number reservation

⊞ ✱	Initiate programming.
7 5 0	Enter code.
⊞ ♫	Terminate programming. The internal call numbers 98 and 99 are now available once again.

NOTE!

The internal call number 98 is also valid for calling up features in the case of IWV (pulse dialling) devices.

Specifying internal call groups

You can create up to four call groups within the PABX. The subscribers grouped within a call group are called both internally and externally via a collective number. Thus, you can assign the Sales Dept. a common call number under which all sales staff can be reached.

> Configuration program
> Configuration-> Call Groups

The call group is specified in two steps:
- Define collective number for internal call group.
- Assign subscribers to the call group.

Defining the collective call number of the call group

# *	Initiate programming.
0 4 6	Enter code.
e.g. 2	Enter number of call group (1 to 4).
e.g. 5 5	Enter internal call number.
♫	You hear an acknowledgement tone.
# ♫	Terminate programming step 1. You will hear another acknowledgement tone.

NOTES!

- The internal call number you define as the collective number should not already be assigned. If it is already assigned, you will hear a negative acknowledgement tone.
- When entering a range of numbers, the call group is incremented automatically.
- Calls cannot be forwarded to a collective number!

Assigning subscribers to the call group:

# *	Initiate programming.
4 6 1	Enter code.
e.g. 2	Enter number of call group (1 to 4).
e.g. 1 1	Enter subscriber call number. 0 0 Collective number for all subscribers. You can also enter several call numbers consecutively.
♫	You hear an acknowledgement tone.
# ♫	Terminate programming. You have now specified the call group.

Deleting subscribers from the call group

`#` `*`	Initiate programming.
`4` `6` `0`	Enter code.
e.g. `2`	Enter number of the call group (1 to 4).
e.g. `1` `1`	Enter subscriber call number to be deleted. `0` `0` Delete all subscribers of the call group. You can also enter several call numbers consecutively.
♪	You hear an acknowledgement tone.
`#` ♪	Terminate programming. You have now deleted the subscriber from the call group

3 **Basic settings via telephone**

Call distribution

You can create an individual call distribution profile for calls for your PABX. By configuring a weekly profile, call versions can be matched according to your needs. The call distribution profile must be configured to correspond to your particular connection type (PABX or multiple subscriber). Both versions are described in the following chapters.

Master authorisation is required for configuring call distribution.

Configuring call distribution for PABX mode

When using a PABX connection, internal subscribers can be reached directly via direct dial-in numbers.
Furthermore, there is also the central call. You can specify which subscribers are to be reached via this central call. This distribution among subscribers is known as AVA (call distribution). This comes also into effect when a call number is dialled that is not available per DDI via the PABX, but may possibly be reachable at the BRI. In the event of incomplete dialling, the call is switched to AVA automatically, so that the call can still be accepted. You can freely define five different call versions for this one central call as follows:

Configuration program
Configuration-> Call Distribution

Configuring call distribution among subscribers

# *	Initiate programming.
0 2 2 1	Enter code.
e.g. 1	Enter ISDN port number: EURACOM 262F, 262: 1, 2, 3 or 4 EURACOM 182F, 182, 261F, 261: 1, 2 or 3 EURACOM 181F, 181, 260F, 260: 1 or 2 EURACOM 141F, 141,180F, 181: always 1
0	Enter 0.
e.g. 2	Enter AVA (call distribution) (1 to 5).
e.g. 5 5	Enter subscriber call number. 0 0 Call distribution among all subscribers. You can also enter several call numbers consecutively.
♪	You hear an acknowledgement tone.
# ♪	Terminate programming. You have now specified the call distribution.

Deleting call distribution among subscribers

⊞ ✳	Initiate programming.
0 2 2 0	Enter code.
e.g. 1	Enter ISDN port number:
	EURACOM 262F, 262: 1, 2, 3 or 4
	EURACOM 182F, 182, 261F, 261: 1, 2 or 3
	EURACOM 181F, 181, 260F, 260: 1 or 2
	EURACOM 141F, 141,180F, 181: always 1
0	Enter 0.
e.g. 2	Enter AVA (call distribution) (1 to 5).
e.g. 5 5	Enter subscriber call number. You can also enter several call numbers consecutively. 0 0 Call distribution among all subscribers.
♫	You hear an acknowledgement tone
⊞ ♫	Terminate programming. You have now deleted the subscriber(s) from the call distribution

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Specifying call distribution periods

You can organise the central call specifically for different days and different times. You can specify two periods for each weekday (daytime and night-time) and also decide which call distribution applies to the respective period

Specifying daytime and night-time periods

⊞ ✳	Initiate programming.
0 2 7	Enter code.
e.g. 1	Enter ISDN port number:
	EURACOM 262F, 262: 1, 2, 3 or 4
	EURACOM 182F, 182, 261F, 261: 1, 2 or 3
	EURACOM 181F, 181, 260F, 260: 1 or 2
	EURACOM 141F, 141,180F, 181: always 1
0	Enter 0.
e.g. 5	Enter weekday:
	1 Monday 2 Tuesday
	3 Wednesday 4 Thursday
	5 Friday 6 Saturday
	7 Sunday ✳ Mo to Sun
e.g. 0	0 Night 1 Day ✳ Day and Night
e.g. 1 6 0 0	Enter time-of-day (always four-digits). Night-time commences after this time.
⊞ ♩	Terminate programming. You have now specified the call distribution periods.

Specifying AVA (call distribution) for the respective periods

⊞ ✳	Initiate programming.
0 2 4	Enter code.
e.g. 1	Enter ISDN port number:
	EURACOM 262F, 262: 1, 2, 3 or 4
	EURACOM 182F, 182, 261F, 261: 1, 2 or 3
	EURACOM 181F, 181, 260F, 260: 1 or 2
	EURACOM 141F, 141,180F, 181: always 1
0	Enter 0.
e.g. 5	Enter weekday:
	1 Monday 2 Tuesday
	3 Wednesday 4 Thursday
	5 Friday 6 Saturday
	7 Sunday ✳ Mo to Sun
e.g. 0	0 Night 1 Day ✳ Day and Night
e.g. 3	Enter AVA (1 to 5).
⊞ ♩	Terminate programming. You have now specified the call distributions for the programmed periods.

Programming example for call distribution:

Two secretaries share their work in your company. One works on Monday, Wednesday and Friday, the other on Tuesday, Thursday and also on Friday.
Each secretary has her own DDI number.
Thus, telephone 12 should receive the calls in the period from 8 a.m. to 4 p.m. on Monday and Wednesday. On Tuesday and Thursday, the second secretary arrives somewhat later, so that telephone 13 must receive calls between 8.30 a.m. and 4.30 p.m. On Friday, both telephones must receive calls between 8 a.m. and 3 p.m. Answering machine No. 17 should receive all calls outside these hours. External access in this example is via Port 1.

1) Specifying the AVAs

#✱ 0221 1 0 2 12#	for AVA 2 Subscriber 12
#✱ 0221 1 0 3 13#	for AVA 3 Subscriber 13
#✱ 0221 1 0 4 12 13#	for AVA 4 Subscriber 12 and 13
#✱ 0221 1 0 5 17#	for AVA 5 Subscriber 17

2) Specifying the weekly profile, e.g. for Monday and Tuesday

#S027 1 0 1 1 0800#	Monday 8 a.m.	start of daytime period
#S027 1 0 1 0 1600#	Monday 4 p.m.	start of night-time period
#S027 1 0 2 1 0830#	Tuesday 8.30 a.m.	start of daytime period
#S027 1 0 2 0 1630##	Tuesday 4.30 p.m.	start of night-time period

etc.

3) Specifying the daytime and night-time AVAs for Monday, Tuesday and Friday, for example:

#S024 1 0 1 1 2#	Monday daytime AVA 2 (Subscriber 12)
#S024 1 0 1 0 5#	Monday night-time AVA 5 (Subscriber 17)
#S024 1 0 2 1 3#	Tuesday daytime AVA 3 (Subscriber 13)
#S024 1 0 2 0 5#	Tuesday night-time AVA 5 (Subscriber 17)
#S024 1 0 5 1 4#	Friday daytime AVA 4 (Subscribers 12 and 13)
#S024 1 0 5 0 5#	Friday night-time AVA 5 (Subscriber 17)

etc.

3 Basic settings via telephone

Using call distribution for call-forwarding

You can also use the five call distributions for call-forwarding.
Call-forwarding is activated if a central call cannot be accepted.

Specifying daytime and night time periods

`#` `*`	Initiate programming.
`0` `2` `5`	Enter code.
e.g. `1`	Enter ISDN port number:
	EURACOM 262F, 262: 1, 2, 3 or 4
	EURACOM 182F, 182, 261F, 261: 1, 2 or 3
	EURACOM 181F, 181, 260F, 260: 1 or 2
	EURACOM 141F, 141,180F, 181: always 1
`0`	Enter 0.

e.g. `5`   Enter weekday:

`1` Monday		`2` Tuesday	
`3` Wednesday		`4` Thursday	
`5` Friday		`6` Saturday	
`7` Sunday		`*` Mo to Sun	

e.g. `0`	`0` Night `1` Day `*` Day and Night
e.g. `3`	Enter call distribution (AVA) (1 bis 5).
`#` ♪	Terminate programming. You have now specified the call-forwarding periods.

Specifying the response time for call-forwarding

`#` `*`	Initiate programming.
`0` `2` `6`	Enter code.
e.g. `1`	Enter ISDN port number:
	EURACOM 262F, 262: 1, 2, 3 or 4
	EURACOM 182F, 182, 261F, 261: 1, 2 or 3
	EURACOM 181F, 181, 260F, 260: 1 or 2
	EURACOM 141F, 141,180F, 181: always 1
`0`	Enter 0.
e.g. `5`	Enter weekday:

`1` Monday		`2` Tuesday	
`3` Wednesday		`4` Thursday	
`5` Friday		`6` Saturday	
`7` Sunday		`*` Mo to Sun	

e.g. `0`	`0` Night `1` Day `*` Day and Night
e.g. `0` `6` `0`	Enter call-forwarding response time (in seconds) (000 to 120). `0` `0` `0` Deactivate call-forwarding
`#` ♪	Terminate programming. You have now specified the call-forwarding response time.

NOTE!

Call-forwarding response time: The period of time after which an incoming call is forwarded to the programmed call number.

Programming example:

The preceding example is extended by the fact that the answering machine (Subscriber 17) is to activate after 30 seconds on weekdays. It is already defined in AVA 5. This is not necessary during night-time and at weekends, as the answering machine is already part of the distribution. External access is via Port 1 in this example.

To this end, program the following call-forwarding weekly profile:

#✳ 25 1 0 ✳ 1 5#	This sets AVA 5 as the call-forwarding AVA, however for all days during the daytime, but it is shorter to subsequently deactivate it for the weekend.
#✳ 26 1 0 ✳ 1 030#	This sets the daytime call-forwarding response time to 30 seconds for all days.
#✳ 26 1 0 6 1 000#	These two commands deactivate daytime
#✳ 26 1 0 7 1 000#	call-forwarding at the weekend
#✳ 26 1 0 ✳ 0 000#	This command deactivates night-time call-forwarding on all days.

By means of these commands, you have configured the desired condition for forwarding incoming calls (central calls) to the answering machine.

Configuring call distribution for multiple subscriber mode

Subscribers to a multiple subscriber connection can only be reached directly via their MSN.

This assignment is called MSN-AVA (MSN call distribution). With such an AVA; you can also allow just one subscriber or multiple subscribers to be called via the respective MSN. You can define five different signalling options for each MSN, as follows:

Configuration program
Configuration -> Call Distribution

Configuring call distribution for an MSN

⊞ ✳	Initiate programming.
0 2 2 1	Enter code.
e.g. 1	Enter ISDN port number: EURACOM 262F, 262: 1, 2, 3 or 4 EURACOM 182F, 182, 261F, 261: 1, 2 or 3 EURACOM 181F, 181, 260F, 260: 1 or 2 EURACOM 141F, 141,180F, 181: always 1
e.g. 3	Enter MSN (0 to 9).
e.g. 5	Enter AVA (1 to 5).
e.g. 4 4	Enter subscriber call number. You can also enter several call numbers consecutively. 0 0 Call distribution across all subscribers.
♪	You hear an acknowledgement tone.
⊞ ♪	You have now specified the call distribution.

Deleting subscribers from the MSN call distribution profile

⊞ ✳	Initiate programming.
0 2 2 0	Enter code.
e.g. 1	Enter ISDN port number: EURACOM 262F, 262: 1, 2, 3 or 4 EURACOM 182F, 182, 261F, 261: 1, 2 or 3 EURACOM 181F, 181, 260F, 260: 1 or 2 EURACOM 141F, 141,180F, 181: always 1
e.g. 3	Enter MSN (0 to 9).
e.g. 5	Enter AVA (1 to 5).
e.g. 4 4	Enter subscriber call number. You can also enter several call numbers consecutively. 0 0 Call distribution across all subscribers.
♪	You hear an acknowledgement tone.
⊞ ♪	You have now deleted the subscriber(s) from the call-distribution profile.

Specifying call distribution periods

You can organise the call distribution specifically for different days and different times. You can specify two periods for each weekday (daytime and night-time) and also decide which call distribution applies to the respective period.

Specifying daytime and night-timeperiods

# *	Initiate programming.
0 2 7	Enter code.
e.g. 1	Enter ISDN port number:
	EURACOM 262F, 262: 1, 2, 3 or 4
	EURACOM 182F, 182, 261F, 261: 1, 2 or 3
	EURACOM 181F, 181, 260F, 260: 1 or 2
	EURACOM 141F, 141,180F, 181: always 1
e.g. 9	Enter MSN (0 to 9).
e.g. 5	Enter weekday:

1 Monday   2 Tuesday
3 Wednesday   4 Thursday
5 Friday   6 Saturday
7 Sunday   * Mo to Sun

e.g. 0	0 Night 1 Day * Day and Night
1 7 0 0	Enter time-of-day (always four-digits). Night-time commences after this time
# ♪	Terminate programming. You have now specified the call distribution periods.

Specifying AVAs (call distribution) for the respective periods

# *	Initiate programming.
0 2 4	Enter code.
e.g. 1	Enter ISDN port number:
	EURACOM 262F, 262: 1, 2, 3 or 4
	EURACOM 182F, 182, 261F, 261: 1, 2 or 3
	EURACOM 181F, 181, 260F, 260: 1 or 2
	EURACOM 141F, 141,180F, 181: always 1
e.g. 9	Enter MSN (0 to 9).
e.g. 5	Enter weekday:

1 Monday   2 Tuesday
3 Wednesday   4 Thursday
5 Friday   6 Saturday
7 Sunday   * Mo to Sun

e.g. 0	0 Night 1 Day * Day and Night
e.g. 3	Enter AVA (1 to 5).
# ♪	Terminate programming. You have now specified the call distribution for the programmed periods.

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Programming example for call distribution:

Two secretaries share their work in your company. One works on Monday, Wednesday and Friday, the other on Tuesday, Thursday and also on Friday. Both secretaries can be reached from outside via the same call number, but both have their own telephone. The external call number is assigned to the PABX under Index 1.
Accordingly, telephone 12 should receive the calls in the period from 8 a.m. to 4 p.m. on Monday and Wednesday. On Tuesday and Thursday, the second secretary arrives somewhat later, so that telephone 13 must receive calls between 8.30 a.m. and 4.30 p.m. On Friday, both telephones must receive calls between 8 a.m. and 3 p.m. Answering machine No. 17 should receive all calls outside these hours. Their fax machine (No. 18) should be available around the clock under the second MSN (Index 2). External access in this example is via Port 1.

The following programming must be performed to this end
1) Specifying the AVA for MSN-Index 1

#✱ 0221 1 1 2 12#	for AVA 2 Subscriber 12
#✱ 0221 1 1 3 13#	for AVA 3 Subscriber 13
#✱ 0221 1 1 4 12 13#	for AVA 4 Subscriber 12 and 13
#✱ 0221 1 1 5 17#	for AVA 5 Subscriber 17

2) Specifying the AVA for MSN-Index 2

#✱ 0221 1 2 2 18#	for AVA 2

3) Specifying the weekly profile for MSN index 1

#✱ 027 1 1 1 1 0800#	Monday 8 a.m.	start of daytime period
#✱ 027 1 1 1 0 1600#	Monday 4 p.m.	start of night-time period
#✱ 027 1 1 2 1 0830#	Tuesday 8.30 a.m.	start of daytime period
#✱ 027 1 1 2 0 1630#	Tuesday 4.30 p.m.	start of night-time period
etc.		

4) Specifying the weekly profile for MSN index 2
In this instance, programming can be dispensed with, and the default setting retained instead.

5) Specifying the weekday daytime and night-time AVAs for MSN index 1

#✱ 024 1 1 1 1 2#	Monday daytime AVA 2 (Subscriber 12)
#✱ 024 1 1 1 0 5#	Monday night-time AVA 5 (Subscriber 17)
#✱ 024 1 1 2 1 3#	Tuesday daytime AVA 3 (Subscriber 13)
#✱ 024 1 1 2 0 5#	Tuesday night-time AVA 5 (Subscriber 17)
#✱ 024 1 1 5 1 4#	Friday daytime AVA 4 (Subscribers 12 and 13)
#✱ 024 1 1 5 0 5#	Friday night-time AVA 5 (Subscriber 17)
etc.	

6) Specifying the weekday daytime and night-time AVA for MSN index 2

#✱ 024 12 ✱ ✱ 2#	Monday to Sunday: daytime and night-time AVA 2 (Subscriber 18). In this context, the ✱ symbol instead of the weekday digit specifies that the setting is identical for all weekdays. The ✱ symbol instead of the daytime/night-time digit means the setting applies for daytime and night-time.

Using call distribution for call-forwarding

You can also use the five call distributions for call-forwarding.
Call-forwarding is activated if an external call was not accepted. It applies both to the call and the assigned MSN. Thus, you can handle the various calls differently, e.g. if you have split your PABX between two companies with different MSNs

Specifying daytime and nighttime periods

`#` `*`	Initiate programming.
`0` `2` `5`	Enter code.
e.g. `1`	Enter ISDN port number: EURACOM 262F, 262: 1, 2, 3 or 4 EURACOM 182F, 182, 261F, 261: 1, 2 or 3 EURACOM 181F, 181, 260F, 260: 1 or 2 EURACOM 141F, 141,180F, 181: always 1
e.g. `9`	Enter MSN (0 to 9).
e.g. `5`	Enter weekday:

`1` Monday		`2` Tuesday	
`3` Wednesday		`4` Thursday	
`5` Friday		`6` Saturday	
`7` Sunday		`*` Mo to Sun	

e.g. `0`	`0` Night `1` Day `*` Day and Night
e.g. `3`	Enter call distribution (AVA) (1 to 5).
`#` ♫	Terminate programming. You have now specified the call-forwarding periods.

Specifying the response time for call-forwarding

`#` `*`	Initiate programming.
`0` `2` `6`	Enter code.
e.g. `1`	Enter ISDN port number: EURACOM 262F, 262: 1, 2, 3 or 4 EURACOM 182F, 182, 261F, 261: 1, 2 or 3 EURACOM 181F, 181, 260F, 260: 1 or 2 EURACOM 141F, 141,180F, 181: always 1
e.g. `9`	Enter MSN (0 to 9).
e.g. `5`	Enter weekday:

`1` Monday		`2` Tuesday	
`3` Wednesday		`4` Thursday	
`5` Friday		`6` Saturday	
`7` Sunday		`*` Mo to Sun	

e.g. `0`	`0` Night `1` Day `*` Day and Night

↓

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e.g. `0` `9` `0` Enter call-forwarding response time (in seconds and always 3 digits) (000 to 120).
`0` `0` `0` Deactivate call-forwarding.

`#` ♫ Terminate programming. You have now specified the call-forwarding response time.

NOTE!

Call-forwarding response time: The period of time after which an incoming call is forwarded to the programmed call number.

Programming example:

The preceding example is extended by the fact that the answering machine (Subscriber 17) is to activate at day time after 30 seconds on weekdays for the first MSN. The preceding example is extended by the fact that the answering machine (Subscriber 17) is to activate after 30 seconds on weekdays. It is already defined in AVA 5. This is not necessary during night-time and at weekends, as the answering machine is already part of the distribution. External access is via Port 1 in this example.

1) Program the following call-forwarding weekly profile for MSN 1:

#✶ 025 1 1 ✶ 1 5# This sets AVA 5 as the call-forwarding AVA however for all days during the daytime, but it is shorter to subsequently deactivate it for the weekend.

#✶ 026 1 1 ✶ 1 030# This sets the daytime call-forwarding response time to 30 seconds for all days.

#✶ 026 11 6 1 000# These two commands deactivate daytime
#✶ 026 11 7 1 000# call-forwarding at the weekend

#✶ 026 1 1 ✶ ✶ 000# This command deactivates night-time call-forwarding on all days.

2) Deactivate call-forwarding for MSN 2 with following command:

#✶ 026 1 2 ✶ ✶ 000# This deactivates call-forwarding for MSN 2 around the clock and on all weekdays.

By means of these commands, you have configured the desired condition for forwarding incoming calls under the main number to the answering machine. The fax machine is called immediately without call-forwarding.

Extended basic configuration of the PABX

You must perform the configurations in this chapter if you wish to match your PABX to your PC or if you do not receive time and date information from your network provider.

Setting the time and date

The date and time are usually transmitted by your network provider upon each outgoing call. If, however, you need to set the date and time manually, proceed as follows:

Setting the date

⊞ ✳	Initiate programming.
0 0 1	Enter code.
e.g. 3 0 1 0 9 9	Enter date in format TTMMJJ.
	TT = Day
	MM = Month
	JJ = Year
⊞ ♫	Terminate programming. You have now set the date.

Setting the time

⊞ ✳	Initiate programming.
0 0 2	Enter code.
e.g. 1 8 3 0	Enter time in format hhmm.
	hh = hour
	mm = minute
⊞ ♫	Terminate programming. You have now set the time.

NOTES!

- The date must be entered as six-digits.
- The time must be entered as four-digits.
- The date and time must be set for transmission to ISDN terminal devices.

Configuring the RS232C interface

In order to configure the interface, you must specify a service and the baud rate.

> Configuration program
> Configuration -> Basic configuration -> Other

Specify interface service

`#` `*`	Initiate programming.
`0` `7` `0`	Enter code.
e.g. `2`	Enter COM-Port : (1 or 2) EURACOM 141F, 141 always 1
e.g. `1`	Set service.
	`1` service „PC"
	`2` service „Printer"
`#` ♪	Terminate programming. You have now configured the RS232 interface.

Specifying the interface baude rate

`#` `*`	Initiate programming.
`0` `7` `1`	Enter code.
e.g. `2`	Enter COM-Port : (1 or 2) EURACOM 141F, 141 always 1
e.g. `1`	Set baudrate
	`1` 2400
	`2` 4800
	`3` 9600
`#` ♪	Terminate programming. You have now specified the baudrate for the RS232 interface.

4. Other things you can do

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Freely definable configuration

This chapter explains the extended configuration of your PABX. You will learn how to configure your PABX precisely to your needs. This part of the configuration describes the settings relating to subscribers, e.g. assignment of the various authorisations, that you can assign on a subscriber-specific basis.

Specifying the terminal device type of the analog connections

Here, you can specify which type of terminal device is used at the respective port. The respective port must already be assigned a call number in this context. You can only assign one type of terminal device to each individual subscriber.

Configuration program
Configuration-> Subscriber configuration

�`#` `*`	Initiate programming.
`4` `0` `0`	Enter code.
e.g. `5`	Enter terminal device.
`1`	Telephone
`2`	Fax machine
`3`	Answering machine
`4`	Modem
`5`	Multi-functional device (fax and telephone)
`6`	DIS (only for Subscriber 1 and EURACOM 180F, 180, 181F, 181, 182F, 182)
e.g. `5` `5`	Enter subscriber call number. You can also enter several call numbers consecutively. `0` `0` All internal ports are assigned the terminal device type set (apart from the DIS).
♪	You hear an acknowledgement tone.
`#` ♪	Terminate programming. You have now specified the type of terminal device for a specific subscriber.

Programming example:
The connections with call numbers 13 and 45 are to be operated with a modem:
`#` `*` `4` `0` `0` `4` `1` `3` `4` `5` `#`

Exchanging internal connections

If two subscribers on your PABX are to exchange workplaces, you can also exchange the complete configuration data for these subscribers. Each of the two subscribers thus immediately has his or her own configuration again (call number, dial authorisation, call distribution assignment, etc.) at the new workplace

⊞ ✳	Initiate programming.
4 2 0	Enter code.
e.g. 4 5	Enter first subscriber call number
e.g. 5 5	Enter second subscriber call number
⊞ ♪	Terminate programming. You have now exchanged connection 45 with connection 55.

Programming example:
You wish to exchange the connections with call numbers 12 and 15:
⊞ ✳ 4 2 0 1 2 1 5 ⊞

Authorisations

Configuration program
Configuration-> Subscriber configuration

Specifying dial authorisation for internal connections

You can assign individual dial authorisation for each internal subscriber. You can thus prevent, for instance, undesired long-distance calls being made from a particular telephone. The following levels of dial authorisation are possible:

Internal:	The subscriber can only make internal calls and dial the emergency numbers.
Incoming:	The subscriber can also receive incoming calls and call the programmed speed-dial numbers (partial external authorisation).
Local:	The subscriber can call all local numbers (numbers that do not begin with a „0") and also dial all free numbers programmed into the PABX.
National:	The subscriber can additionally dial all numbers that do not begin with „00".
International:	The subscriber can additionally dial all numbers that begin with „00"
Unrestricted:	The subscriber has no call restrictions. Even barred numbers can be dialled with unrestricted authorisation.

Every subscriber may only be assigned one kind of call authorisation. This is specified as follows:

# *	Initiate programming.
4 0 2	Enter index for „call authorisation".
e.g. 5	Enter authorisation. 1 Internal 2 Incoming 3 Local 4 National 5 International 6 Unrestricted
e.g. 5 5	Enter subscriber call number. You can also enter several call numbers consecutively. 0 0 All internal connections receive the authorisation thus configured.
♪	You hear an acknowledgement tone.
# ♪	Terminate programming. You have now specified the authorisation for a subscriber.

Example:
You only want the connections with call numbers 13 and 45 to be able to make local calls: # * 4 0 2 3 1 3 4 5 #

Assigning programming authorisation for internal connections

You can assign your internal subscribers three different levels of authorisation. As PABX configuration settings can only be made via these authorisation levels, the assignment of subscriber-specific authorisation levels provides protection against unauthorised settings.
You can assign the following authorisation levels to your internal subscribers:

Master authorisation:	Unrestricted authorisation (default)
Company authorisation:	Authorisation for one company only in the case of company separation
Subscriber authorisation:	Authorisation for switching individual features, e.g. call-protection.

If you would like to assign a subscriber a different authorisation, simply overwrite that subscriber's authorisation with the new authorisation. You can only raise the authorisation level of the respective subscriber to that of your own authorisation. You cannot modify your own authorisation.
If you would like to prevent the editing of configurations via telephone, you can withdraw master authorisation for all subscribers with the PC configuration program (configuration --> Subscriber configuration).

⊞ ✳	Initiate programming.
4 0 1	Enter index for „authorisation".
e.g. 9	Enter authorisation. 1 Subscriber authorisation 6 Company authorisation 9 Master authorisation
e.g. 5 5	Enter subscriber call number. You can also enter several call numbers consecutively. 0 0 All internal connections receive the authorisation level thus configured (except for your own).
♫	You hear an acknowledgement tone.
⊞ ♫	Terminate programming. You have now specified the authorisation level of a subscriber.

Example:
The PABX should be configurable from connections 12 and 17:
⊞ ✳ 4 0 1 9 1 2 1 7 ⊞

NOTES!

- **Master authorisation:** permits a subscriber to perform pan-PABX configurations.

- **Company authorisation:** permits a subscriber to perform configurations within his or her company grouping.

- **Subscriber authorisation:** permits a subscriber to perform configurations that only affect his or her own connection

4 Other things you can do

Assigning authorisation for private calls

You can assign each subscriber of your PABX individual authorisation to conduct private calls. If a subscriber receives private-call authorisation, that subscriber can subsequently conduct calls designated as „private calls". This designation appears in the call-charge analysis in place of the destination call number. Private calls have unrestricted call authorisation, i.e. connections with restricted call authorisation can also conduct international calls as soon as the call is designated as private.

Assigning a subscriber private call authorisation

⊞ ✱	Initiate programming.
4 0 8 1	Enter code.
e.g. 5 5	Enter subscriber call number. You can also enter several call numbers consecutively. 0 0 All internal connections receive authorisation for private calls.
♫	You hear an acknowledgement tone.
⊞ ♫	Terminate programming. You have now specified „private call" authorisation for a subscriber.

Withdrawing private call authorisation from a subscriber

⊞ ✱	Initiate programming.
4 0 8 0	Enter code.
e.g. 5 5	Enter subscriber call number. You can also enter several call numbers consecutively. 0 0 All internal connections receive the specified authorisation.
♫	You hear an acknowledgement tone.
⊞ ♫	Terminate programming. You have now withdrawn „private call" authorisation for a subscriber.

Assigning authorisation for intrusion calls

A subscriber with authorisation for intrusion calls can join calls being conducted by other subscribers. In the case of two companies sharing PABX, subscribers with this authorisation can only join calls being conducted within their respective company. Each subscriber has the right to configure intrusion protection for his or her telephone. Intrusion protection has to be set up with his/her telephone.

Assigning authorisation for intrusion calls

⊞ ✳	Initiate programming.
4 0 8 1	Enter code.
e.g. 5 5	Enter subscriber call number. You can also enter several call numbers consecutively. 0 0 All internal connections receive the specified authorisation
♫	You hear an acknowledgement tone.
⊞ ♫	Terminate programming. You have now assigned authorisation for intrusion calls to a subscriber.

Withdrawing authorisation for intrusion calls

⊞ ✳	Initiate programming.
4 0 8 0	Enter code.
e.g. 5 5	Enter subscriber call number. You can also enter several call numbers consecutively. 0 0 All internal connections receive the specified authorisation.
♫	You hear an acknowledgement tone.
⊞ ♫	Terminate programming. You have now withdrawn authorisation for intrusion calls from a subscriber.

4 Other things you can do

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Assigning authorisation for call-forwarding external to external

The brokers call function in the case of external subscribers allows you to connect both external subscribers. To this end, you must have call-forwarding external to external authorisation for your connection. Both B-channels of your ISDN connection are occupied by this procedure.

This authorisation can only be configured via a telephone with master authorisation

Assigning call forwarding external to external

`#` `*`	Initiate programming.
`4` `0` `7` `1`	Enter code.
e.g. `5` `5`	Enter subscriber call number. You can also enter several call numbers consecutively. `0` `0` All internal connections receive the specified authorisation.
♪	You hear an acknowledgement tone.
`#` ♪	Terminate programming. You have now assigned call-forwarding external to external authorisation to a subscriber.

Withdrawing call forwarding external to external

`#` `*`	Initiate programming.
`4` `0` `7` `0`	Enter code.
e.g. `5` `5`	Enter subscriber call number. You can also enter several call numbers consecutively. `0` `0` All internal connections receive the specified authorisation.
♪	You hear an acknowledgement tone.
`#` ♪	Terminate programming. You have now withdrawn call-forwarding external to external authorisation from a subscriber.

Configuring special telephone numbers

Specifying emergency call numbers

You can configure a total of 20 emergency call numbers with your PABX. Emergency call numbers are call numbers or ranges of numbers all subscribers can access, regardless of individual subscriber authorisation levels.

If you have split your exchange between two companies, each company can configure up to 10 emergency call numbers. In this context, the first ten memory locations (00-09) are allocated to Company 1, and the remaining 10 locations (10-19) are allocated to Company 2. These emergency call numbers only apply to subscribers configured within the respective company.

Configuration program
Configuration-> Emergency numbers

Configuring an emergency call number

# *	Initiate programming.
4 4 0	Enter code.
e.g. 1 5	Enter memory location number for the emergency call number (00 to 19, always two-digits).
♪	Enter the emergency call number.
# ♪	Terminate programming. You have now configured an emergency call number.

Programming example:
You wish to program emergency call number 110 in emergency call location 13 (speed dialling number 12): # * 4 4 0 1 2 1 1 0 #

Deleting an emergency call number

# *	Initiate programming.
4 4 0	Enter code.
e.g. 1 5	Enter memory location number for the emergency call number (00 to 19, always two-digits).
# ♪	Terminate programming. You have now deleted the emergency call number.

Programming example:
You wish to delete the emergency call number stored In the 8th emergency call location (speed dialling number 07): # * 4 4 0 0 7 #

NOTES!

- Enter emergency call numbers with a max. of 15 digits and **without** activation of external line.
- Emergency call numbers can also be dialled from barred telephones.
- The appendix to the operating instructions „User manual" contains a Table in which the emergency call numbers programmed can be entered.

Configuring free call numbers

You can configure a total of 20 free call numbers with your PABX. Free call numbers are call numbers or ranges of numbers all subscribers can access as of the „Local" authorisation level.

If you have split your exchange between two companies, each company can configure up to 10 free call numbers. In this context, the first ten memory location (00-09) are allocated to Company 1, and the remaining 10 locations (10-19) are allocated to Company 2. These free call numbers only apply to subscribers configured within the respective company.

> Configuration program
> Configuration-> Free call numbers

Configuring a free call number

⊞ ✳	Initiate programming.
4 4 1	Enter code.
e.g. 1 5	Enter memory location number for the free call number (00 to 19, always two-digits).
e.g. 7 4 2	Enter the free call number.
⊞ ♫	Terminate programming. You have now configured a free call number.

Programming example:
You wish to program free call number 839 in free call location 13 (speed dialling number 12): ⊞ ✳ 4 4 1 1 2 8 3 9 ⊞

Deleting a free call number

⊞ ✳	Initiate programming.
4 4 1	Enter code.
e.g. 1 5	Enter memory location number for the free call number (00 to 19, always two-digits).
⊞ ♫	Terminate programming. You have now deleted the free call number.

Programming example:
You wish to delete the free call number stored In the 9th free call location (speed dialling number 08): ⊞ ✳ 4 4 1 0 8 ⊞

NOTES!

- Free call numbers can have a max. of 15 digits.
- Enter free call numbers **without** activation of external line.
- The appendix to the operating instruction "User manual" contains a table in which the free call numbers programmed can be entered.

4 Other things you can do

Specifying barred numbers

You can configure a total of 20 barred call numbers with your PABX. Barred call numbers are call numbers or ranges of numbers the dialling of which is not permitted from the PABX. Barred numbers do not apply to subscribers with „Unrestricted" call authorisation.

If you have split your exchange between two companies, each company can configure up to 10 barred call numbers. In this context, the first ten memory locations (00-09) are allocated to Company 1, and the remaining 10 locations (10-19) are allocated to Company 2. These barred call numbers only apply to subscribers configured within the respective company.

Configuration program
Configuration-> Barred numbers

Configuring a barred number
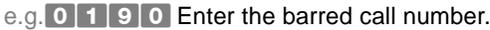
⊞ ✳	Initiate programming.
4 4 2	Enter code.
e.g. 1 5	Enter memory location number for the barred number (00 to 19, always two-digits).
e.g. 0 1 9 0	Enter the barred call number.
⊞ ♫	Terminate programming. You have now configured a barred call number.

Programming example:
You wish to program barred call number 0190 in barred call location 3 (speed dialling number 02): ⊞ ✳ 4 4 2 0 2 0 1 9 0 ⊞

Deleting a barred number

⊞ ✳	Initiate programming.
4 4 2	Enter code.
e.g. 1 5	Enter memory location number for the barred number (00 to 19, always two-digits).
⊞ ♫	Terminate programming. You have now deleted the barred number.

Programming example:
You wish to delete the barred number stored In the 3rd barred call location (speed dialling number 02): ⊞ ✳ 4 4 2 0 2 ⊞

NOTES!

- Barred numbers can have a max. of 15 digits.
- Enter barred call numbers **without** activation of external line.
- The appendix to the operating instruction „User manual" contains a table in which the barred numbers programmed can be entered.
- Barred numbers do not apply in the event of unrestricted exchange authorisation and private calls.

Other things you can do

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Changing the music on hold

Here, you can specify whether or not you wish to make use of your PABX internal music on hold (default is „on"), or whether you wish to activate external music on hold.

Configuration program
Configuration -> System configuration

`#` `*`   Initiate programming.

`0` `1` `6`   Enter code.

e.g. `0`   Enter music on hold.

`0`   No music on hold

`1`   Internal music on hold (default)

`2`   External music on hold (with EURACOM 141F, 141 with installed MST module only)

`#` ♫   Terminate programming. You have now configured the music on hold.

Configuring control elements

Your PABX has control elements, i.e. actuators and a sensor, that can be used as follows:

- As an alarm contact
- As a secondary ringer
- As an MOH switch (Music on Hold)
- As a manually switchable relay

The operating instructions „Installation" describe how to activate the control elements.

NOTE!

EURACOM 141F, 141: Only when upgraded with MST module.

Switching control elements as alarm contact

You can use the control elements to control an alarm system.
The signal input is located between S1 and S1' .

Configuration program
Configuration-> Basic configuration

Activating an alarm contact

#	*		Initiate programming.
0 5 1 1		Enter code.
# ♫		Terminate programming. You have now activated the alarm contact.

Deactivating an alarm contact

#	*		Initiate programming.
0 5 1 0		Enter code.
# ♫		Terminate programming. You have now deactivated the alarm contact.

If the contact is activated, the alarm is triggered upon the alarm loop being interrupted within a freely definable alarm period. This period can be specified separately for each weekday.

Configuring control elements

Activating an alarm contact at specified times

# **✳**	Initiate programming.
0 **5** **6**	Enter code.
e.g. **5**	Enter day:

1 Monday   **2** Tuesday
3 Wednesday   **4** Thursday
5 Friday   **6** Saturday
7 Sunday   **✳** Mon to Sun

1	Press button 1 to activate.
e.g. **0** **7** **3** **0**	Enter time-of-day in the format HHMM (always four-digit). HH = Hour MM = Minute
# ♪	Terminate programming. You have now specified the time at which the alarm contact is activated.

Deactivating an alarm contact at a specified time

# **✳**	Initiate programming.
0 **5** **6**	Enter code.
e.g. **5**	Enter day:

1 Monday   **2** Tuesday
3 Wednesday   **4** Thursday
5 Friday   **6** Saturday
7 Sunday   **✳** Mon to Sun

0	Press button 0 to activate.
e.g. **1** **6** **0** **0**	Enter time-of-day in the format HHMM (always four-digit). HH = Hour MM = Minute
# ♪	Terminate programming. You have now specified the time at which the alarm contact is deactivated.

Programming example:
You wish to configure the alarm function for the following times and weekdays:

	OFF	ON	Programming steps	
Mon	7	22	#✳ 056 1 0 0700#	#✳ 056 1 1 2200#
Tue	5	21	#✳ 056 2 0 0500#	#✳ 056 2 1 2100#
Wed	6	21	#✳ 056 3 0 0600#	#✳ 056 3 1 2100#
Thu	6	21	#✳ 056 4 0 0600#	#✳ 056 4 1 2100#
Fri	8	19	#✳ 056 5 0 0800#	#✳ 056 5 1 1900#
Sat	24	24	#✳ 056 6 0 2400#	#✳ 056 6 1 2400#
Sun	24	24	#✳ 056 7 0 2400#	#✳ 056 7 1 2400#

Setting the weekend activation time as 24.00 Hrs means that the alarm function remains active from 7 p.m. Friday to 7 a.m. Monday.

Configuring the activation delay time for an alarm

# *	Initiate programming.
0 5 7	Enter code.
e.g. 1 2 0	Enter activation delay time in seconds (000 to 255, always three-digits).
# ♪	Terminate programming. You have now specified the activation time delay.

NOTE!

Activation time delay: The period that passes between the alarm contact being triggered and the actual alarm being sounded.

Silent alarm (alarm call numbers are being dialled during alarm)

Activating a silent alarm

# *	Initiate programming.
0 5 2 1	Enter code.
# ♪	Terminate programming. You have now activated a silent alarm.

Specifying alarm call numbers for the silent alarm

# *	Initiate programming.
0 5 3	Enter code.
e.g. 1	Enter alarm call number (1 to 3).
e.g. 6 8 3 8	Enter the call number to be dialled in the event of an alarm (without the „zero" prefix).
# ♪	Terminate programming. You have now specified an alarm call number.

NOTE!

You can specify a maximum of three alarm call numbers, all of which are dialled consecutively. If a connection cannot be established immediately, the programmed alarm call numbers are dialled repeatedly at 1-minute intervals until a connection is established.

Deactivating a silent alarm

# *	Initiate programming.
0 5 2 0	Enter code.
# ♪	Terminate programming. You have now deactivated the silent alarm.

4 Other things you can do

Configuring control elements

Audible alarm (a siren is sounded when the alarm is triggered)

Configuration program
Configuration-> Basic configuration

Using actuators for controlling a siren

⌗ ✳	Initiate programming.
0 5 0	Enter code.
e.g. 1	Enter actuator (1 or 2).
	1 Actuator A1, A1 ,
	2 Actuator A2, A2 , (not with the EURACOM 141F, 141)
2	Press button 2 for alarm functionality.
⌗ ♫	Terminate programming. You have now configured an „audible alarm".

Configuration program
Configuration-> Control contacts -> Alarm

Setting an actuator in a defined switching status

⌗ ✳	Initiate programming.
0 5 4	Enter code.
e.g. 1	Enter actuator (1 or 2).
	1 Actuator A1, A1 ,
	2 Actuator A2, A2 , (not with the EURACOM 141F, 141)
e.g. 1	Enter operating status (0 to 2).
	0 Contact opened (switched off)
	1 Contact closed (switched on)
	2 Contact not switched (deactivated)
⌗ ♫	Terminate programming. You have now configured the switching status for activating an alarm.

Configuring the actuator alarm activation time

⌗ ✳	Initiate programming.
0 5 5	Enter code.
e.g. 1	Enter actuator (1 or 2).
	1 Actuator A1, A1 ,
	2 Actuator A2, A2 , (not with the EURACOM 141F, 141)

↓

4 Other things you can do

e.g. **1 2 0**	Enter alarm activation time in seconds (000 to 999, always 3-digits). **0 0 0** Continuous alarm.
♯ ♪	Terminate programming. You have now specified the activation delay time.

NOTE!

Alarm activation time: Signalling duration of an alarm.

Stopping a triggered alarm

An alarm stops automatically upon expiry of the activation time of the actuators and acknowledgement of the silent alarm. If you wish to stop the alarm earlier, or have activated a continuous alarm, proceed as follows:

♯ 0 8	Press button #08.
e.g. **9 9 9 9 9 9**	Enter code number (max. six-digits, applies across entire PABX). Default: 999999. You have now stopped the alarm.

Changing the code number

Configuration program
Configuration-> Basic configuration

♯ ✳	Initiate programming.
4 4 5	Enter code.
e.g. **4 5 6 5**	Enter code number. This will overwrite any existing code number.
♯ ♪	Terminate programming. You have now specified the current code number.

NOTES!

- Code number max. six digits.
- If you do not wish to enter a code: **♯ ✳ 4 4 5 ♯**

Using control elements as a secondary ringer

You can use the actuators to control a secondary ringer (ringing tone, flashing lamp). This is useful in the event of disturbing background noise in order to provide additional audio-visual indication of an incoming call.

> Configuration program
> Configuration-> Basic configuration -> Activator function

Using actuators as a secondary ringer

`#` `*`	Initiate programming.
`0` `5` `0`	Enter code.
e.g. `1`	Enter secondary ringer (1 or 2):
	`1` Actuator 1
	`2` Actuator 2 (not with EURACOM 141F, 141)
`1`	Press button 1 for secondary ringer functionality.
`#` ♪	Terminate programming. You have now configured the control elements for use as a secondary ringer.

> Configuration program
> Configuration-> Subscriber configuration

Activating a secondary ringer for a subscriber

`#` `*`	Initiate programming.
`0` `4` `9` `1`	Enter code.
e.g. `1`	Enter secondary ringer (1 or 2):
	`1` Secondary alarm 1
	`2` Secondary alarm 2 (not with EURACOM 141F, 141)
e.g. `5` `5`	Enter subscriber call number. You can also enter several call numbers consecutively. `0` `0` All internal subscribers receive a secondary ringer.
♪	You hear an acknowledgement tone.
`#` ♪	Terminate programming. You have now activated the secondary ringer for all subscribers specified.

Deactivating a secondary ringer for a subscriber

# *	Initiate programming.
0 4 9 0	Enter code.
e.g. 1	Enter secondary ringer (1 or 2):
	1 Secondary ringer 1
	2 Secondary ringer 2 (not with EURACOM 141F, 141)
e.g. 5 5	Enter subscriber call number. You can also enter several call numbers consecutively. 0 0 All internal subscribers receive a secondary ringer.
♫	You hear an acknowledgement tone.
# ♫	Terminate programming. You have now deactivated the secondary ringer for all subscribers specified.

NOTE!

The electrical power for the secondary ringer is not supplied from the PABX.

Other things you can do

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Using control elements as MOH switches

Switching external music source from standby mode to active mode.

	Configuration program Additional Info... -> Control Contacts
⌗ ✳	Initiate programming.
0 5 0	Enter code.
e.g. 1	Enter actuator (1 or 2): 1 Actuator A1, A1 , 2 Actuator A2, A2 , (not with the EURACOM 141F, 141)
3	Press button 3 for MOH functionality.
⌗ ♪	Terminate programming. You have now configured the control elements for use as MOH switches.

Using control elements as manually operated switches

Using control elements as manually switchable relays

Configuration program
Additional Info... -> Control Contacts

⌗ ⁎	Initiate programming.
0 5 0	Enter code.
e.g. 1	Enter actuator (1 or 2):
	1 Actuator A1, A1 ,
	2 Actuator A2, A2 , (not with the EURACOM 141F, 141)
9	Press button 9 for relay functionality.
⌗ ♪	Terminate programming. You have now configured the control element as a manually switchable relay.

Switching an actuator on or off

Configuration program
Additional Info... -> Control Contacts

⌗ ⁎	Initiate programming.
0 5 9	Enter code.
e.g. 1	Enter actuator (1 or 2):
	1 Actuator A1, A1 ,
	2 Actuator A2, A2 , (not with the EURACOM 141F, 141)
e.g. 1	0 switch off
	1 switch on
⌗ ♪	Terminate programming. You have now switched the actuator on or off.

NOTE!

The actuator can only be switched on or off from an internal telephone with master authorisation.

Deactivating control elements

Sensor	⌗ ⁎ 0 5 1 0 ⌗ ♪
Actuator 1	⌗ ⁎ 0 5 0 1 0 ⌗ ♪
Actuator 2	⌗ ⁎ 0 5 0 2 0 ⌗ ♪ (not with EURACOM 141F, 141)

Other things you can do

4

Configuring a door intercommunication systems (DIS)

- EURACOM 141F, 141: DIS only possible with MST module (renders one DIS port available).
- EURACOM 180F, 181F, 182F, 180, 181, 182: When using MD module, two DIS ports available, otherwise DIS possible via analog port 1 (see below).
- EURACOM 260F, 261F, 262F, 260, 261, 262: When using with MD module, two DIS ports available, otherwise, one DIS port.

> Configuration program
> Configuration-> Door Intercomm...

Assigning the DIS a call number (only with PABXs with MD or MST module)

⌗ ✳	Initiate programming.
0 4 3	Enter code.
e.g. 1	Enter DIS port (1 or 2):
	1 Port 1
	2 Port 2 (not with EURACOM 141F, 141)
e.g. 7 7	Enter subscriber call number.
⌗ ♪	Terminate programming. You have now assigned the door intercom system a call number.

Special feature in the case of the EURACOM 18xF, 18x without MD module

If you do not use an MD module, you can operate a DIS at analog port 1 instead of an analog terminal device. In this context, the DIS is switched via the DIS1 clamp connector, with the a/b DIS jumper being set to the correct position for DIS operation. Analog Port 1 remains unswitched.

Assigning a subscriber call number for the DIS

⌗ ✳	Initiate programming.
0 4 1 1	Enter code.
e.g. 4 4	Enter subscriber call number.
⌗ ♪	Terminate programming.

Subsequently, set the type of subscriber to DIS as follows

⌗ ✳	Initiate programming.
4 0 0 6	Enter code.
e.g. 4 4	Enter the same subscriber call number as above.
♪	You hear an acknowledgement tone.
⌗ ♪	Terminate programming. You have now configured a DIS without MD module for the EURACOM 18xF, 18x. Your analog interface is now treated as DIS Port 1.

Configuring call distribution for a DIS

You can specify on which weekday, at which time and at which subscriber the door call is signalled for your DIS. You can define five call distributions to this end, which you can then assign to the corresponding weekdays and times.

There follows an overview of the necessary programming steps:

- Add a subscriber to a DIS call distribution
- Configure a weekly profile
- Specify the times for daytime and night-time activation
- Configure the DIS calling time

Configuration program
Configuration-> Door Intercomm...

Adding a subscriber to a DIS call distribution

`#` `*`	Initiate programming.
`4` `3` `0` `1`	Enter code.
e.g. `1`	Enter DIS port (1 or 2): `1` Port 1 `2` Port 2 (not with EURACOM 141F, 141)
e.g. `5`	Enter AVA (1 to 5).
e.g. `4` `4`	Enter subscriber call number. You can also enter several call numbers consecutively. `0` `0` All subscribers are added to the DIS-AVA.
♫	You hear an acknowledgement tone.
`#` ♫	Terminate programming. You have now added a subscriber to a DIS-AVA.

Deleting a subscriber from a DIS call distribution

`#` `*`	Initiate programming.
`4` `3` `0` `0`	Enter code.
e.g. `1`	Enter DIS port (1 or 2): `1` Port 1 `2` Port 2 (not with EURACOM 141F, 141)
e.g. `5`	Enter AVA (1 to 5).
e.g. `4` `4`	Enter subscriber call number. You can also enter several call numbers consecutively. `0` `0` All subscribers are deleted from the DIS-AVA.
♫	You hear an acknowledgement tone.
`#` ♫	Terminate programming. You have now deleted a subscriber from the DIS -AVA.

4 Other things you can do

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Specifying which call distribution profile is active when

⊞ ✳	Initiate programming.
4 3 1	Enter code.
e.g. 1	Enter DIS port (1 or 2):
	1 Port 1
	2 Port 2 (not with EURACOM 141F, 141)
e.g. 5	Enter day:

	1 Monday	2 Tuesday
	3 Wednesday	4 Thursday
	5 Friday	6 Saturday
	7 Sunday	✳ Mon to Sun

e.g. 0	0 Night 1 Day ✳ Day and night
e.g. 5	Enter AVA (1 to 5).
⊞ ♪	Terminate programming. You have now specified the valid call distribution profile.

Configuring times for daytime and night-time activation

⊞ ✳	Initiate programming.
4 3 2	Enter code.
e.g. 1	Enter DIS port (1 or 2):
	1 Port 1
	2 Port 2 (not with EURACOM 141F, 141)
e.g. 5	Enter day:

	1 Monday	2 Tuesday
	3 Wednesday	4 Thursday
	5 Friday	6 Saturday
	7 Sunday	✳ Mon to Sun

e.g. 0	0 Night 1 Day ✳ Day and night
1 7 0 0	Enter time. The night-time period subsequently begins at this time.
⊞ ♪	Terminate programming.

Programming example:
You would like to configure your DIS 1 call distribution with the following weekly profile:

		Time	subscr.	subscr.	AVA
Mon	Day	6 a.m.	11, 12, 20		AVA 2
	Night	7 p.m.		20	AVA 3
Tue	Day	7 a.m.	20, 21		AVA 4
	Night	8 p.m.		20	AVA 3
Sun	Day	7 a.m.	20		AVA 3
	Night	8 p.m.		20	AVA 3

You programme the profile as follows:

the subscribers	the call distributions (AVA)	the times for daytime and night-time
#✶ 430 1 1 2 11 12 20#	#✶ 431 1 1 1 2#	#✶ 432 1 1 1 0800#
#✶ 430 1 1 3 20#	#✶ 431 1 1 0 3#	#✶ 432 1 1 0 1900#
#✶ 430 1 1 4 20 21#	#✶ 431 1 2 1 4#	#✶ 432 1 2 1 0700#
#✶ 431 1 2 0 3#	#✶ 432 1 2 0 2000#	
#✶ 431 1 7 ✶ 3#	#✶ 432 1 7 1 0700#	
#✶ 432 1 7 0 2000#		

Configuring the call time for a DIS

`#` `✶`	Initiate programming.
`4` `3` `5`	Enter code.
e.g. `1`	Enter DIS port (1 or 2): `1` Port 1 `2` Port 2 (not with EURACOM 141F, 141)
e.g. `1` `2` `0`	Enter the call time (000 to 255, always with 3 digits) `0` `0` `0` DIS deactivated.
`#` ♫	Terminate programming.

NOTE!

Call time: Duration that the DIS is signalled in seconds.

Creating Pick-Up groups / Company separation

You can split all subscribers connected to your PABX into numerous groups or into two companies (in order to separate private and business numbers, for instance).

Creating a Pick-Up group

When creating a Pick-Up group, you actually group specific subscribers in order to restrict the picking-up of calls to a smaller subscriber group. In this context, each subscriber can be assigned to numerous Pick-Up groups. You can configure up to four such groups in your PABX. If you have split the PABX amongst two companies, Company 1 is assigned groups 1 and 2, while Company 2 is assigned Groups 3 and 4.

Configuration program
Configuration -> Call Groups

Assigning subscribers to a Pick-Up group

⊞ ✳	Initiate programming.
4 5 0 1	Enter code.
e.g. 3	Enter group (1 to 4).
e.g. 5 5	Enter subscriber call number. You can also enter several call numbers consecutively. 0 0 All internal connections are assigned to the specified group.
♪	You hear an acknowledgement tone.
⊞ ♪	Terminate programming. You have now assigned a subscriber to a group.

Deleting subscribers from a Pick-Up group

⊞ ✳	Initiate programming.
4 5 0 0	Enter code.
e.g. 3	Enter group (1 to 4).
e.g. 5 5	Enter subscriber call number. You can also enter several call numbers consecutively. 0 0 All internal connections are deleted from the specified group.
♪	You hear an acknowledgement tone.
⊞ ♪	Terminate programming. You have now deleted a subscriber from a group.

Company separation

Company separation simply means splitting the PABX into two fundamentally different companies. Thus, for instance, code calls are only signalled in that company in which they were triggered. In order to split the PABX in this manner both for incoming and outgoing calls, the PABX must be configured accordingly. In the case of incoming calls, attention must be paid to separate assignment of the MSN or to splitting of the DDI number blocks to the respective subscribers of both companies. In order to achieve such a separation in the case of outgoing calls, attention must be paid to specification of the call numbers used. More information on this subject can be found in the operating instructions „User manual".

If company separation has been configured, the number of call locations for speed dialling numbers, barred numbers, free numbers and emergency numbers are broken down evenly among both companies. As a rule, Company 1 receives the first half of the available call locations, i.e. speed dialling numbers 100 to 199. Accordingly, Company 2 is assigned speed dialling numbers 200 to 299, etc.

The telephone used for programming in this context must have master authorisation.

Configuration program
Configuration -> System Configuration

Configure company separation for your PABX

♯ ✳	Initiate programming.
0 0 9 1	Enter code.
♯ ♫	Terminate programming. All subscribers are initially assigned to Company 1.

Cancelling company separation

♯ ✳	Initiate programming.
0 0 9 0	Enter code.
♯ ♫	Terminate programming. You have now cancelled the company separation function.

Assigning subscribers to a company

♯ ✳	Initiate programming.
0 3	Enter code.
e.g. 2	Enter company (1 or 2).
e.g. 5 5	Enter subscriber call number. You can also enter several call numbers consecutively. 0 0 All internal connections are assigned to the specified company.
♫	You hear an acknowledgement tone.
♯ ♫	Terminate programming. You have now assigned a subscriber to a specific company.

Other things you can do

4

NOTES!

- If you wish to transfer a connection from Company 1 to Company 2, simply enter the respective connection under Company 2. It is then deleted from Company 1 automatically.

- Subscribers cannot have multiple designations in the case of company separation.

- Creating Pick-Up groups is possible within the two companies. The number of groups in this context is limited to two per company.

5. Special Operating Modes

EURACOM®

Least Cost Routing (LCR)

For options, see notes on inside-cover-page, please!

Least Cost Routing (LCR) means keeping the costs of your telephone calls as low as possible. This can be achieved by concluding a contract with another provider (Preselection) or by specifying the most inexpensive provider for each telephone call (Call-by-Call). You can realise the Call-by-Call procedure, for instance, by using a memory location number to select the provider, with the desired subscriber call number subsequently being dialled.

Automatic LCR is a powerful feature which dispenses with the need to specify a provider for each call. The Call-by-Call procedure is also used in this case, with the difference that your PABX makes the decision for you. You determine the selection criteria with the help of corresponding tables that must be programmed beforehand. This is preferably performed via a PC, but may also be performed via a telephone.

Automatic LCR can be implemented in two different versions:

- Easy Select: The PABX decides which provider to dial on the basis of three zone definitions. Two of these three zones are reserved for area codes beginning with 0 (National) and 00 (International). The third zone can be specified on an individual basis. Local calls are also included in these zones.

- Full Select: The desired provider (20 providers) is selected on the basis of an extensive zone breakdown (20 zones) and a time profile.

Automatic LCR can only select the most inexpensive provider according to the data entered. The situation may arise that a different provider would actually have been less expensive for a particular call, depending on your call behaviour, e.g. upwards of a call duration of 10 minutes. Such cases cannot be taken into account by automatic LCR.

NOTE!

The following must be noted when using LCR at the time of going to press:
You should not enter a provider for the zone that counts as your local zone, as you will usually be connected to the network of your local network provider for local calls and not have a choice of provider.
However, Ackermann has already prepared the PABX software for selecting a provider in the local zone; it will be possible to use this function as soon as the technical network prerequisites have been met.

Specifying a provider

You have 20 providers at your disposal, for which you must enter the complete call number. If you have configured your PABX for company separation, each company is assigned 10 providers. In this context, Company 1 generally disposes over memory locations 00 to 09 and Company 2 memory locations 10 to 19.

Specifying a provider

`#` `*`	Initiate programming.
`4` `8` `2`	Enter code.
e.g. `0` `1`	Enter memory location number for provider (00 to 19, always two digits).
e.g. `0` `1` `0` `7` `0`	Enter provider call number (up to 6 digits).

Specifying zones

Area codes are grouped in the various zones (up to 20), which are subsequently assigned to a provider. Up to 250 area codes or area code ranges can be entered for automatic LCR. If you have already entered an area code or have exceeded the maximum number, this will be indicated by a negative acknowledgement tone. In order to facilitate the data entry for you, we have provided zone tables ready for use on the PC on the CD-ROM. Should these data need to be updated, we will make new tables available on our Internet homepage (http://www.ackermann.com) placing.

Assigning an area code to a zone

`#` `*`	Initiate programming.
`4` `8` `3`	Enter code.
e.g. `0` `3` `3` `1` `*`	Enter area code (up to six digits). Conclude number with ✳ .
e.g. `0` `1`	Enter memory location number for the zone (00 to 19, always two digits).
`#` ♪	Terminate programming.

NOTES!

- Zones 06 and 16 cannot be changed. They are occupied with the area codes "0" (zone 06) and "00" (zone 16).
- Zone 00 is used in the local district when a number is dialled.
- Zones 00, 06 and 16 are used for Easy Select.

Deleting an area code

`#` `*`	Initiate programming.
`4` `8` `3`	Enter code.
e.g. `0` `3` `3` `1`	Enter area code (up to six digits).
`#` ♪	Terminate programming. The area code is now deleted.

5 Special Operating Modes

Specifying time profiles and assigning providers

The time profile is used to specify at which time a provider should be changed. You can distribute up to 15 such times among the week. These times are programmable in increments of 15 minutes. You can specify the specific times for weekdays (Monday to Friday), Saturday, Sunday and National Holidays. In this context, the weekdays (Mon to Sun) are always treated the same. By assigning a provider to one of these times, you specify which provider is selected at that respective time.

Specifying the time profile for a zone

# *	Initiate programming.
4 8 4	Enter code.
e.g. 0 1	Enter memory location number of the zone (00 to 19, always two digits).
e.g. 0 1	Enter memory location number of the time (00 to 14, always two digits).
e.g. 1	Enter type of day:
	1 Monday to Friday
	2 Saturday
	3 Sunday
	4 Holiday
e.g. 0 9	Enter time in hours (00 to 23, always two digits).
e.g. 2	Enter time in increments of 15 minutes.
	0 00 min
	1 15 min
	2 30 min
	3 45 min
# ♪	Terminate programming.

Specifying a provider for a specific time

# *	Initiate programming.
4 8 5	Enter code.
e.g. 0 1	Enter memory location number of the zone (00 to 19, always two digits).
e.g. 0 1	Enter memory location number of the time (00 to 14, always two digits).
e.g. 0 3	Enter memory location number of the provider (00 to 19, always two digits).
# ♪	Terminate programming.

↓

Specifying time profiles and assigning providers

The time profile is used to specify at which time a provider should be changed. You can distribute up to 15 such times among the week. These times are programmable in increments of 15 minutes. You can specify the specific times for weekdays (Monday to Friday), Saturday, Sunday and National Holidays. In this context, the weekdays (Mon to Sun) are always treated the same. By assigning a provider to one of these times, you specify which provider is selected at that respective time.

Specifying the time profile for a zone

`#` `*`	Initiate programming.
`4` `8` `4`	Enter code.
e.g. `0` `1`	Enter memory location number of the zone (00 to 19, always two digits).
e.g. `0` `1`	Enter memory location number of the time (00 to 14, always two digits).
e.g. `1`	Enter type of day:
	`1` Monday to Friday
	`2` Saturday
	`3` Sunday
	`4` Holiday
e.g. `0` `9`	Enter time in hours (00 to 23, always two digits).
e.g. `2`	Enter time in increments of 15 minutes.
	`0` 00 min
	`1` 15 min
	`2` 30 min
	`3` 45 min
`#` ♪	Terminate programming.

Specifying a provider for a specific time

`#` `*`	Initiate programming.
`4` `8` `5`	Enter code.
e.g. `0` `1`	Enter memory location number of the zone (00 to 19, always two digits).
e.g. `0` `1`	Enter memory location number of the time (00 to 14, always two digits).
e.g. `0` `3`	Enter memory location number of the provider (00 to 19, always two digits).
`#` ♪	Terminate programming.

↓

NOTES!

- Time profiles are not take into account when using Easy Select.
- In the case of Easy Select, you need only perform a provider assignment to zones 00, 06 and 16 for the time 00.
- If the first time of a specific type of day is specified as being after 0:00, the provider that was valid at 23:45 is also valid for the period from 0:00 to this time.

The following diagram illustrates the relationships:
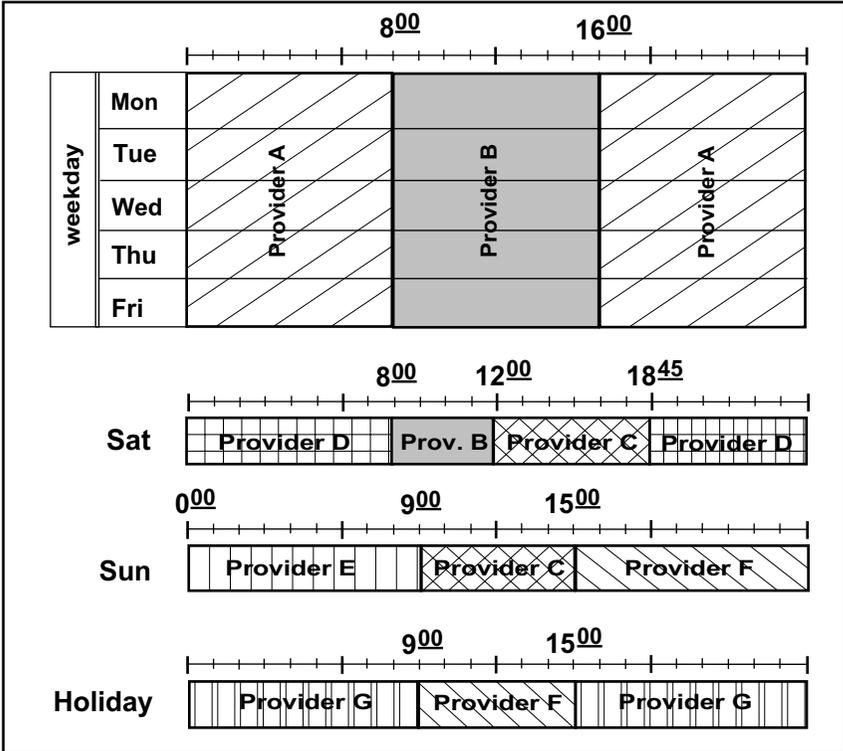
This example is programmed as follows:

Time 00: at 08:00 on weekdays and Saturdays, Provider B is selected
Time 01: at 16:00 on weekdays,   Provider A is selected
Time 02: at 12:00 on Saturdays,   Provider C is selected
Time 03: at 18:45 on Saturdays,   Provider D is selected
Time 04: at 00:00 on Sundays,   Provider E is selected
Time 05: at 09:00 on Sundays,   Provider C is selected
Time 06: at 15:00 on Sundays,   Provider F is selected
Time 07: at 09:00 on holidays,   Provider F is selected
Time 08: at 15:00 on holidays,   Provider G is selected

Least Cost Routing (LCR)

Adding a type of day

# *	Initiate programming.
4 8 4	Enter code.
e.g. 0 1	Enter memory location number of the zone (00 to 19, always two digits).
e.g. 0 1	Enter memory location number of the time (00 to 14, always two digits).
e.g. 1	Enter type of day: 1 Monday to Friday 2 Saturday 3 Sunday 4 Holiday
# ♪	Terminate programming.

Deleting all types of day

# *	Initiate programming.
4 8 4	Enter code.
e.g. 0 1	Enter memory location number of the zone (00 to 19, always two digits).
e.g. 0 1	Enter memory location number of the time (00 to 14, always two digits).
0	Deletes all types of day.
# ♪	Terminate programming. All types of day are now deleted.

Deleting a time

# *	Initiate programming.
4 8 4	Enter code.
e.g. 0 1	Enter memory location number of the zone (00 to 19, always two digits).
e.g. 0 1	Enter memory location number of the time (00 to 14, always two digits).
# ♪	Terminate programming. The specified time is now deleted.

Deleting all times of a zone

# *	Initiate programming.
4 8 4	Enter code.
e.g. 0 1	Enter memory location number of the zone (00 to 19, always two digits).
# ♪	Terminate programming.

Deleting provider assignment

# *	Initiate programming.
4 8 5	Enter code.
e.g. 0 1	Enter memory location number of the zone (00 to 19, always two digits).
e.g. 0 5	Enter memory location number of the time (00 to 14, always two digits).
# ♪	Terminate programming. The assignment of the specific provider is now deleted.

Entering LCR barred numbers

Some numbers can be excluded from automatic LCR. These are then designated as LCR barred numbers. The numbers of your providers should be included in this context, in order to ensure correct routing in the event of manual dialling. You have 20 LCR barred numbers at your disposal, which are broken down evenly among both companies in the event of company separation.

Entering barred numbers

`#` `*`	Initiate programming.
`4` `8` `7`	Enter code.
e.g. `0` `1`	Enter memory location number for the LCR barred number (00 to 19, always two digits).
e.g. `0` `1` `0`	Enter barred numbers (max. 24 digits).
`#` ♪	Terminate programming. Manually initiated calls via providers are now excluded from automatic LCR.

Deleting barred numbers

`#` `*`	Initiate programming.
`4` `8` `7`	Enter code.
e.g. `0` `1`	Enter memory location number for the LCR barred number (00 to 19, always two digits).
`#` ♪	Terminate programming. The LCR barred numbers are now deleted.

Activating LCR

Once you have performed all programming steps, you must activate LCR for your PABX. Choose between "Easy" and "Full Select" modes.

`#` `*`	Initiate programming.
`4` `8` `0`	Enter code.
e.g. `1`	Enter LCR version: `0` OFF `1` Easy Select `2` Full Select
`#` ♪	Terminate programming. Easy Select LCR is now activated.

Excluding subscribers from LCR

In the case of some subscribers, it may be useful to prevent calls being established via a specific provider, or for certain calls to be excluded from LCR. By activating LCR in your PABX, all calls are initially routed via LCR. Therefore, you have the option of specifying individual subscriber authorisation levels, which define the use, exclusion or case-specific exclusion of LCR.

`#` `*`	Initiate programming.
`4` `0` `6`	Enter code.
e.g. `2`	Enter subscriber LCR selection: `0` LCR inactive `1` LCR active `2` Deactivate LCR for single calls
e.g. `1` `1`	Enter subscriber call number: `0` `0` All subscribers. You can also enter several call numbers consecutively.
♪	You hear an acknowledgement tone.
`#` ♪	Terminate programming.

5 Special Operating Modes

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Configuring packeted data switching (X.31)

Packeted data switching (X.31) means the transmission of packet data via the D-channel. This service feature must be applied for separately from your network provider. The X.31-capable terminal device is connected to the internal S0-Bus. The network access conditions required for operation on public telecommunications networks must be fulfilled. You can operate a maximum of 4 terminal devices with TEI assignment (Terminal Endpoint Identifier). Assignment of the TEI numbers is performed as follows for each individual terminal device:

	Configuration program: Configuration - > X31..
⊞ ✳	Initiate programming.
0 4 5	Enter code.
e.g. 1	Enter TEI assignment index (1, 2, 3 or 4).
0	Press button 0.
e.g. 1	Enter external ISDN port: EURACOM 141, 141F: always 1 EURACOM 180F, 181F, 182F 180, 181, 182: 1 to 3 EURACOM 260F, 261F, 262F, 260, 261, 262: 1 to 4
e.g. 1 3	Enter the two-digit number provided by your network provider.
e.g. 2	Enter internal ISDN port: EURACOM 141, 141F: always 2 EURACOM 180F, 181F, 182F 180, 181, 182: 2 to 3 EURACOM 260F, 261F, 262F, 260, 261, 262: 2 to 4
e.g. 6 0	Enter the two-digit number you wish to assign to a terminal device as an internal number (01 to 62).
⊞ ♪	Terminate programming.

The diagram on the right illustrates the linking of TEI numbers.

Example:

You operate four X.31 terminal devices and wish to connect these with the public exchange in cost-saving fashion via your exchange.

Apply for a TEI value from your network provider.

Connect the TEI values of the terminal devices with the TEI value at the branch access point as follows:

for the 1st term. dev: #✳ 045 1 0 1 36 2 21#
for the 2nd term. dev: #✳ 045 1 0 1 36 2 22#
for the 3rd term. dev: #✳ 045 1 0 1 36 2 23#
for the 4th term. dev: #✳ 045 1 0 1 36 2 24#

multiple subscriber connection/
PABX connection

TEI 36
S_0 external

EURACOM

S_0 internal

X.31 TEI 22   X.31 TEI 24
X.31 TEI 21   X.31 TEI 23
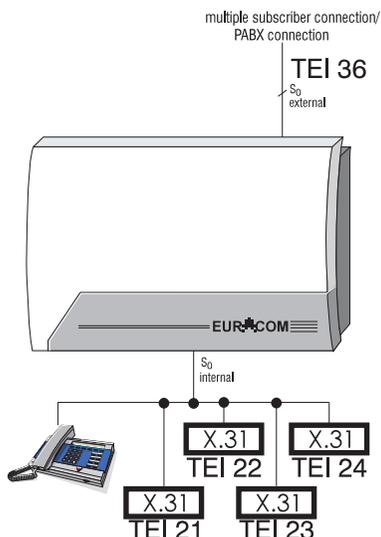
Configuring a sub-system

Your PABX can be run as the sub-system to another PABX (main PABX), either by connecting it through the public telephone network (remote sub-system) or by connecting it via an internal S_0-Bus of the main PABX (direct sub-system).

The main PABX must be capable of handling the entire EURO-ISDN protocol on the internal S_0-Bus.

Automatic connection to external line is possible with both operating modes. If automatic connection to external line is deactivated, dialling „0" connects the subscriber to the public telecommunications network, and dialling „$*$" connects to the main system. When automatic connection to external line is activated, the first instance of dialling $*$ switches to the internal mode of the PABX. The subsequent procedure is identical to that for deactivated automatic connection to external line.

Futhermore, each S_0-Ports configured externally must be connected in the superordinate system, i.e.:

- to the main system in the case of "direct sub-system",
- to the public network in the case of "remote sub-system".

It is not possible to mix both modes.

> Configuration program:
> Configuration -> Basic configuration -> system type

Direct sub-system

In the case of the "Direct sub-system" operating mode, the PABX does not check authorisation for connecting to the local loop. This must be performed by the main system. In order to configure a "Direct sub-system", the PABX must be defined as a sub-system in the following way:

# $*$	Initiate programming.
0 0 4 2	Enter code.
# ♪	Terminate programming. You have now defined the PABX as a sub-system.

You must subsequently inform the PABX of the main system code for connecting to theexternal line. This is necessary so that you do not have to dial the external line code of the main system in addition to the 0 for connecting to the external line. Connection to external line for the main system is programmed as follows:

# $*$	Initiate programming.
0 1 4	Enter code.
e.g. 9	Enter code for connecting main system to external line.
# ♪	Terminate programming. You have now programmed external line connection of the main system.

Configuring a sub-system

By means of this procedure, your PABX is configured for operation as a direct sub-system. In addition, you now have to configure your PABX in the manner described in the preceding chapters. Your external interfaces are configured as multiple subscriber connections or PABX connections, depending on the design of the main system internal S0-Bus. The additional configuration is performed according to the needs of the main system and your own wishes.

Remote sub-system

In the case of "Remote sub-system" operating mode, a subscriber can reach the main system, although he has only an internal authorisation via the public telecommunications network, thus creating costs.
In order to configure a "Remote sub-system", your PABX must be defined as a remote sub-system as follows:

`#` `*`	Initiate programming.
`0` `0` `4` `3`	Enter code.
`#` ♪	Terminate programming. You have now defined the PABX as a sub-system.

You must subsequently inform your PABX how the main system is dialled into. This is necessary so that you do not have to dial the main system call number in addition to the ✶ . The main system call number is programmed as follows:

`#` `*`	Initiate programming.
`0` `1` `4`	Enter code.
e.g.`0` `4` `0` `5` `6` `1` `2`	Enter call number of main system.
`#` ♪	Terminate programming.

By means of this procedure, your PABX is configured for operation as a remote sub-system. In addition, you now have to configure your PABX in the manner described in the preceding chapters. Your external interfaces are configured as multiple subscriber connections or PABX connections, depending on the design of your network provider's connection. The additional configuration is performed as for a single system.

Programming example:
Your head office in London can be reached under the telephone number 0171/ 56120. Your colleague has the DDI number 342. You define your PABX in Oxford as a "Remote sub-system". Program the main system call number as follows:

`#` `*` `0` `1` `4` `0` `1` `7` `1` `5` `6` `1` `2` `#`

You can now reach your colleague by dialling `*` `3` `4` `2`, without also having to dial the number of the head office.

Configuring networked PABX

You can configure networked PABX very easily via the PC program, as it is user-friendly and renders the configuration readily comprehensible. Since you will be programming both PABXs in one go via the PC, several settings must first be made via the telephone.

Perform each step for both PABXs, paying attention to the particular type of PABX at all times.

An overview of the steps:

- Define the type of PABX.
- Define Master/Slave system.
- Define the networking port (cross-port).
- These steps must be performed for each PABX via telephone.

Defining the type of PABX

# *	Initiate programming.
0 0 4 4	Enter code.
# ♪	Terminate programming. You have now defined your PABX as a networked system.

Defining Master / Slave PABX

# *	Initiate programming.
0 0 3	Enter code.
e.g. 1	Enter exchange number (0 or 1):
	0 Master system (A-system)
	1 Slave system (B-system)
# ♪	Terminate programming. You have now defined your PABX as a Slave system.

Defining the protocol for networking port (cross-port)

The cross-port is specified via the definition of the PABX type and protocol. The "PABX connection" protocol must be used in this context.
Specify the protocol for the networking port as follows:

# *	Initiate programming.
0 0 5	Enter code.
e.g. 1	Enter number of the ISDN networking port.
2	Press button 2.
# ♪	Terminate programming. You have now specified the protocol for the ISDN networking port.

Defining the networking port

`#` `*`	Initiate programming.
`0` `0` `6`	Enter code.
e.g. `1`	Enter number of the ISDN networking port.
e.g. `3`	Enter type of PABX (3 or 4):
	`3` Slave system (B-system)
	`4` Master system (A-system)
`#` ♪	Terminate programming. You have now specified the ISDN networking port.

Reset

The above configurations only become effective after resetting the PABX:

`#` `*` `9` `9` `9` `9` `#`

Features of networked PABXs

Feature	Networking			Sub-
	A	Cross	B	system
Occupy a Bus line	X	(X)	X	X
Reserve a B-channel	X	X	X	X
Private call	X	X	X	X
Internal call-back	X	X	X	X
Conference with 3 subscribers / 3PTY	X	X	X	X
Code call 1/2/3/4	X	X	X	X
Call up switchboard memory location no.	X	X	X	X
Door opener	X	-	X	-
Door opener during DIS call	X	X	X	X
Intrusion call	X	X	X	X
Pick up call	X	X	X	X
Take over answering machine	X	X	X	X
Stop alarm procedure	X	-	X	X
Reactivate call parked in central office	X	-	X	X
Park call in central office	X	-	X	X
Malicious Call Identification	X	X	X	X
Call forwarding in central office	X	-	X	X
Delete call-charge total of a subscriber	X	X	X	X
Print total call-charge of a subsc.(Hotel rate)	X	X	X	X
Delete PABX call-charge total	X	X	X	X
Print PABX call-charge total (PTT rate)	X	X	X	X
Printer form feed	X	X	X	X
Printer, reprint header	X	X	X	X

Remote access

Your exchange provides the option for remote access. Your authorisation and cooperation are required to this end. Remote access allows call-forwarding and actuators to be switched, as well as remote diagnosis and configuration to be performed by a service centre in the event of problems.

Remote switching

You can switch call-forwarding and available actuators in your PABX from a remote terminal device. For security reasons, this feature is deactivated in your PABX upon delivery. An overview of the steps:

- Configure virtual subscriber.
- Configure remote switching PIN for virtual subscriber.
- Release remote switching of call-forwarding and actuators.

Configuring a virtual subscriber

First of all, assign an internal call number (default = 88) for the remote switching subscriber. This internal subscriber is not assigned a port and is designated as a virtual subscriber. However, you must ensure that this virtual subscriber can be reached from outside, either via a DDI number or corresponding assignment in a call distribution profile.

Configuration program:
Configuration -> Virtual subscriber

# *	Initiate programming.
0 4 4	Enter code.
e.g. 5 5	Enter subscriber call number.
# ♫	Terminate programming. You have now configured a virtual subscriber with the call number 55.

NOTE!

- The virtual subscriber must have corresponding assignment to an external call number in the case of a multiple subscriber connection or PABX connection with single-digit DDI.
- Calls cannot be forwarded to a virtual subscriber!

Changing the remote switching PIN of the virtual subscriber

If you want to switch actuators remotely, you must assign a PIN - the so-called remote switching PIN - for the virtual subscriber. This PIN must be entered during the procedure upon establishment of a connection from outside, in order for a security check to be performed. In order to prevent unauthorised access to functions of your PABX, it is explicitly recommended that you change the default PIN (88888). The PIN may have from 1 to 6 digits.

`#` `*`	Initiate programming.
`4` `2` `8`	Enter code.
e.g. `5` `5` `6` `6`	Enter remote switching PIN (one to six digits):
	Default: 888888
`#` ♪	Terminate programming. You have now entered the remote switching PIN of the virtual subscriber.

Authorise/barred remote switching

Configuration program:
Configuration -> System Configuration

`#` `*`	Initiate programming.
`0` `1` `5`	Enter code.
e.g. `1`	`1` authorise
	`0` block
`#` ♪	Terminate programming. You have now entered the remote switching PIN of the virtual subscriber.

If you wish to remotely switch a call-forwarding function or an actuator, call your PABX with the corresponding call number for remote switching. This can be the DDI number of the virtual subscriber or the MSN in whose distribution the virtual subscriber is included. After 10 seconds, the PABX sounds the internal special dialling tone for a further 5 seconds.
You then have the following possibilities:

Switching actuators

`2`	Press button 2.
e.g. `5` `5` `6` `6`	Enter remote switching PIN (max. six digits).
`*`	Press ✳ button.

NOTE!

Remote switching PIN = PIN specified for the virtual subscriber (max. six digits)

Switching a call-forwarding function

1	Press button 1.
e.g. **3 0**	Enter subscriber call number.
e.g. **5 5 6 6**	Enter personal PIN of the subscriber.
✶	Press ✶ button.

Following this procedure, you hear an acknowledgement tone if the check of the respective PIN was successful. You then have the option of entering the sequence for switching a call-forwarding function or an actuator. If the PIN entered was wrong, the connection will be interrupted and you hear the busy signal.

NOTE!

A free analog subscriber is required for the analysis of the tone sequences. The PABX looks for this autonomously. During the remote switching connection, this subscriber is barred for incoming calls. If the subscriber begins dialling during the remote switching connection, the remote switching connection will be interrupted. In this case, the connection must be re-established.

Remote maintenance

Your PABX has a remote maintenance function. This remote maintenance comprises remote diagnosis of functional components and remote configuration. With the help of the remote diagnosis, the PABX can be examined for malfunctions by a remote maintenance centre. Thus, it can be determined whether or not your PABX displays faults that need repairing. With the help of the remote configuration function, a remote maintenance centre can configure all parameters in your PABX (e.g. call numbers, authorisation for external line access, etc.) in such a way that they correspond to your needs and wishes.

Remote maintenance is performed via the ISDN network. When a connection is established between your PABX and the remote maintenance centre, a connection is established to your PABX. Cost and time-intensive on-site maintenance by a service engineer can thus usually be avoided. The remote maintenance function of your PABX is protected against abuse and can only be performed by the remote maintenance centre with your co-operation.

If a remote maintenance session becomes necessary, please contact your specialist dealer or the EURACOM service centre. You will then be informed of all further steps that need to be taken. The remote maintenance centre will give you an authorisation PIN, which you program into your PABX as follows:

`#` `*`	Initiate programming.
`9` `9` `0`	Enter code.
e.g. `4` `7` `1` `1` `0` `8` `1` `5` `1` `2` `3` `4`	Enter code number.

The connection for remote maintenance is then established automatically.

NOTE!

The code number is a multiple-digit authorisation PIN that you will be assigned by your remote maintenance centre.

5 Special Operating Modes

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Performing updates

As a result of continuous developments, ever more innovative features are perma-
nently becoming available. Depending on the scope and technical feasibility, these
are offered to you in the form of updates and integrated in your PABX. Information as
to where these updates can be obtained from and when such updates are actually
available is available on our Internet homepage (http://www.ackermann.com).

There are various ways to perform an update:

Updating a EURACOM 141, 180, 181, 182, 260, 261, 262

In this case, the update is achieved by replacing a component. The update-kit you
will receive contains, among other things, a memory module which you must install
in place of the existing module. To this end, it is necessary to open the PABX housing.
Please pay attention to all safety instructions in the operating instructions "Installation"
and the description on the accompanying label.
After the component has been replaced and the PABX recommissioned, the improved
features of the update are available.

Updating a EURACOM 141F, 180F, 181F, 182F, 260F, 261F, 262F

These PABX can be updated remotely, dispensing with the need for the PABX housing
to be opened. The update can be performed from the remote update centre or via
your PC, and may require from 5 to 10 minutes. Therefore, this update should only
be performed when you have very few calls, or preferably none at all. When performing
the update via PC, it is advisable to minimise the number of applications running in
the background, as the available capacity of the computer influences the duration of
the updating procedure.

Updating via the PC

You have received the file with the update from a data storage medium or via a
download from the Internet, for example. Please read any instructions carefully.
Start the configuration program and call up the menu item "Flash Read/Write".
All other items are menu-prompted.

Performing an update

Updating via the remote update centre

This form of update involves you dialling into the remote update centre via a specific procedure. Because the call number was not yet specified at the time of going to press, please either contact your dealer or the EURACOM service centre, or visit our Internet homepage for more information.

⊞ ⨯	Initiate programming.
9 9 0 1 2 3 4	Software - Start update.
Call no.	Call number of remote update centre.

The update now takes place automatically via the remote update centre. Acoustic signals indicate the status of the remote update.

The various status signals are as follows:

Busy signal

If you here this signal after performing the above procedure, it means that the remote update centre is busy, or that you have made a data-entry error.

Intrusion signal

You will hear this tone after performing the above procedure if your PABX already has the latest status.

Internal special tone

After performing the above procedure, you will hear this tone during the entire update procedure.

CCBS busy tone

This tone following the update procedure indicates an error occurred while updating.

Busy tone

This tone following the update procedure indicates that the update was successful.

As external circumstances can lead to unforeseen problems or even termination during the update procedure, it is possible to operate with the original status at all times in the event of an interrupted update procedure. If the update was successful, you consequently have to switch over to the new status.

Activating new PABX software

⊞ ✳	Initiate programming.
0 0 0 9 9 9	Enter code.
⊞ ♫	Terminate programming. The PABX now performs a reset and thus activates the new PABX software.

NOTE!

You can also employ the same procedure to return to the previous software status.

6. Reference Section

EUR**A**COM®

If something does not work

Some useful tips for the event that the configuration should fail to yield the results described:

- Perform the configuration anew in order to ensure that you have entered all data correctly.
- Read the answers in the FAQ on our Internet homepage. (FAQ stands for „Frequently Asked Questions"). It could be that someone has already experienced the same problem. The Internet address is http://www.ackermann.com.
- If Plug & Go does not function, return your PABX to the factory settings.
  To do so, enter: ⊞ ✳ 0 0 0 0 ⊞

NOTE!

- The Ackermann EURACOM Customer Hotline is only available for malfunctions in EURACOM systems!
- Please direct questions regarding operation and features to your specialist dealer or the associated service centre of the distribution partner. Your specialist dealer will be able to tell you which EURACOM consultant is responsible for you.
- Please direct questions regarding ISDN connections to your responsible telecommunications provider.

Call and signal tones

ISDN telephones cannot signal the ringing tones described. A distinction is only possible in the telephone display.

Call tones

▌▌▌ ▌▌▌	**Internal call**	▌▌ ▌▌ **Code call 1**
▌ ▌	**External call**	▌▌▌ ▌ **Code call 2**
▌▌ ▌	**Door call**	▌▌▌▌ ▌ **Code call 3**
▌▌▌ ▌	**Alarm call**	▌▌▌▌▌ ▌ **Code call 4**
▌ ▌	**CLIP analog external*** Call number is displayed for analog external calls.	▌ ▌▌▌ **CLIP analog internal*** Call number is displayed for analog internal calls.

Signal tones (audible tones)

▌▌▌	**Error tone** Incorrect entry / Function not possible	▌	**Acknowledge tone** Correct entry

* Please refer to notes on coverpage-inside!

ISDN features

ISDN Feature		Net provider			
		multiple subscr. conn.		PABX conn.	
		Standard	Comfort	Standard	Comfort
3 PTY	Three-party call	X	X	-	-
AOC-D	Advice of charge during call	X (K)	X (K)	X (K)	X (K)
AOC-E	Advice of charge at end of call	X (K)	X	X (K)	X
CCBS	Call completion to Busy Subscriber	X	X	X	X
CFB	Call Forwarding on Busy	X (K)	X	X (K)	X
CFNR	Call Forwarding No Reply	X (K)	X	X (K)	X
CFU	Call Forwarding Unconditional	X (K)	X	X (K)	X
CLIP **(2**)	Calling line ID presentation from A to B	X	X	X	X
CLIR	Calling line ID supression from A to B	X	X	X	X
COLP	Calling line ID presentation from B to A	X (K)	X (K)	X (K)	X (K)
COLR	Calling line ID supression from B to A	X (K)	X (K)	X (K)	X (K)
CUG	Closed User Group	X (K)*	X (K)*	X (K)*	X(K)*
CW	Call Waiting	X	X	-	-
DDI	Direct Dial-In Number	-	-	X	X
HOLD	Put call on hold / Broker's call	X	X	-	-
MCID	Malicious Call Identification	X (K)	X (K)	X (K)	X (K)
MSN	Multiple Subscriber Number	X	X	-	-
SUB	Subadressing(1)	X (K)	X (K)	X (K)	X (K)
TP	Terminal Portability	X	X	-	-
UUS	User to User Signalling	-	-	-	X (K)
X.31	Data traffic in D-Channel (1)	X (K)	X (K)	X (K)	X (K)

Key:
   X ... Feature available
   X (K) ... Feature must be paid for
   ***** ... Currently for digital terminal devices only
   (1) ... Only possible via an internal ISDN-Bus
   (2) ... Please refer to notes on coverpage-inside.

Factory settings

EURACOM 141F, 141

Operating mode	Single PABX		
Interface	Multiple subscriber connection		
ISDN-Port 1 ISDN-Port 2	External BRI Internal	Call. No. .	= 20, 21 to 24
Analog connections	Configuration: Call Nos. :	Telephone a/b Port 1 a/b Port 2 a/b Port 3	 = 11 = 12 = 13
	Configuration: Call No.:	Multifunction device (Fax + Telephone, Modem) a/b Port 4 = 14	
Call distribution	Collective call:	Call numbers =	11-13, 20
MSN assignment	MSN 1: MSN 2: MSN 3:	Call numbers = Call number = Call numbers =	11-13 14 21 bis 24
Country code	44	Great Britain	
Call authorisation	International	For all subscribers	
Call waiting prot.	Deactivated	For all subscribers , excl. call no. 14	
Master authorisation	All subscribers	excl. Call.no. 14	
CLIP[1]	Incoming: Outgoing:	Activated for all subscribers Activated for all subscribers	
Pick-up authorisation	Deactivated	For all subscribers	
Autom. dial tone	Deactivated	Activate an external line with: 0	
Code number	999999	To stop alarm procedure	
Personal PIN	0000	For dialling with PIN / Tel. lock/ room monitoring/ remote switching	
Remote PIN	88888	For virtual subscriber/remote switching	
Music on hold	Internal MOH		
Company separation	Deactivated		
Remote switching	Not permitted		
Charge information	PTT charge units: Hotel rate charge units: Print charges Save Int. charges	0,042 Pound 0,042 Pound Deactivated for all subscribers Deactivated	
PABX connection	DDI	2-digit	
Operation with MST-Module			
Alarm Alarm text	Not activated ALARM	No Alarm call no.entered UUS	
Door call		Cal numbers = 11,12,13	

(1)...Please refer to notes on coverpage-inside

EURACOM 180F, 181F, 182F, 180, 181, 182

Operating mode	Single PABX		
Interface	multiple subscriber connection		
ISDN-Port 1	External BRI		
ISDN-Port 2	Internal	Call No.	= 20, 21 bis 24
ISDN-Port 3	Internal	Call No.	= 30, 31 bis 34
Analoge connections	Configuration:	Telephone	
	Call numbers :	a/b Port 1	= 11
		a/b Port 2	= 12
		a/b Port 3	= 13
		a/b Port 4	= 14
		a/b Port 5	= 15
		a/b Port 6	= 16
	Configuration:	Answering machine	
	Call number:	a/b Port 7	= 17
	Configuration:	Multifunction device (Fax + Telephone, Modem)	
	Calnumber:	a/b Port 8	= 18
Call distribution	Collective call:	Call numbers	= 11-16, 20, 30
MSN assignment		See Page 11	
Country code	44	Great Britain	
Call authorisation	International	For all subscribers	
Call waiting prot.	Deactivated	For all subscribers	
Master authorisation	All subscribers	Excl. Call. Nos. 17, 18	
CLIP[1]	Incoming:	Activated for all subscribers	
	Outgoing:	Activated for all subscribers	
Pick-up authorisation	Deactivated	For all subscribers	
Autom. dial tone	Deactivated	Activate an external line with: 0	
Code number	999999	To stop alarm procedure	
Personal PIN	0000	For dialling with PIN / Tel. lock/ room monitoring/ remote switching	
Remote PIN	88888	For virtual subscriber/remote switching	
Music on hold	Internal MOH		
Company separation	Deactivated		
Remote switching	Not permitted		
Charge information	PTT charge units:	0,042 Pound	
	Hotel rate charge units:	0,042 Pound	
	Print charges	Deactivated for all subscribers	
	Save Int. charges	Deactivated	
Alarm	Not activated	No Alarm Call. No. entered	
Alarm text	ALARM	UUS	
Door call		Call numbers	= 11,12,13
PABX interface	DDI	2-digit	

(1)...Please refer to notes on coverpage-inside

EURACOM 260F, 261F, 262F, 260, 261, 262

Operating mode	Single PABX		
Interface	Multiple subscriber connection		
ISDN-Port 1	External BRI		
ISDN-Port 2	Internal	Call No.	= 20, 21 bis 24
ISDN-Port 3	Internal	Call No.	= 30, 31 bis 34
ISDN-Port 4	Internal	Call No.	= 40, 41 bis 44
Analog connection	Configuration:	Telephone	
	Call numbers:	a/b Port 1	= 11
		a/b Port 2	= 12
		a/b Port 3	= 13
		a/b Port 4	= 14
		a/b Port 5	= 15
	Configuration:	Multifunction device (Fax + Telephone, Modem)	
	Calnumber:	a/b Port 6	= 16
Call distribution	Collective call:	Call numbers = 11-15, 20, 30, 40	
MSN assignment		See Page 11	
Country code	44	Great Britain	
Call authorisation	International	For all subscribers	
Call waiting prot.	Deactivated	For all subscriber, excl. Call No. 16	
Master authorisation	All subscribers	Excl. Call. No. 16	
CLIP[1]	Incoming:	Activated for all subscribers	
	Outgoing:	Activated for all subscribers	
Pick-up authorisation	Deactivated	For all subscribers	
Autom. dial tone	Deactivated	Activate an external line with: 0	
Code number	999999	To stop alarm procedure	
Personal PIN	0000	For dialling with PIN / Tel. lock/ room monitoring/ remote switching	
Remote PIN	88888	For virtual subscriber/remote switching	
Music on hold	Internal MOH		
Company separation	Deactivated		
Remote switching	Not permitted		
Charge information	PTT charge units:	0,042 Pound	
	Hotel rate charge units	0,042 Pound	
	Print charges	Deactivated for all subscribers	
	Save Int. charges	Deactivated	
Alarm	Not activated	No Alarm Call. No. entered	
Alarm text	ALARM	UUS	
Door call		Call numbers = 11,12,13	
PABX interface	DDI	2-digit	

(1)...Please refer to notes on coverpage-inside

6 Reference Section

Liability and Guarantee

Guarantee conditions

The manufacturer provides a guarantee of 24 months for the equipment family EURACOM 141F, 141, 180F, 180, 181F, 181, 182F, 182 and 260F, 260, 261F, 261, 262F, 262, as of the date of purchase according to the sales voucher, under exclusion of compensation, redhibition or any other claims. Please retain your purchase voucher as proof of the date of purchase.

Within the framework of this guarantee, all parts that have become faulty on account of manufacturing or material faults, shall be replaced or repaired free of charge.

The guarantee excludes damages or malfunctions attributable to unintended use, natural wear or tampering by third-parties. We shall not be liable for damages caused by force majeure or shipping. In the event of a part being repaired or replaced within the framework of this guarantee, the guarantee period shall not be prolonged, either for the replacement part or for the equipment as a whole.

NOTE!

In our experience, many malfunctions are not caused by a technical fault in the PABX themselves, but by interference caused by incorrect settings on customer terminal devices (ISDN/analog telephones, mobile telephones, line telephones, fax devices, answering machines or modems). Please observe the notes in the operating instructions for your terminal devices when using them with PABX's. Under certain circumstances, the impression that the exchange is faulty may also arise in the event of faulty programming of the PABX and incorrect connection of terminal devices to the PABX, or incorrect installation of sockets and wiring.

Repair or replacement of the PABX does not help in such cases, as the malfunction is not attributable to the PABX . Before you remove your PABX from its installation site under difficult circumstances, we recommend you first contact your specialist dealer or associated service centre of the EURACOM distribution partner regarding your problem. Your dealer will be able to tell you which EURACOM consultant is responsible for you. The model ID plate is located on the outside right of the PABX . Rights to technical and visual changes reserved.

Conditions for handling guarantees via a EURACOM Service Centre

With the EURACOM systems 141F, 141, 180F, 180, 181F, 181 and 260F, 260, 261F, 261, 262F, 262 you have decided in favour of high-quality ISDN telecommunications PABX that correspond to modern technical demands for connecting to the public ISDN network.

Should you nevertheless encounter a fault in the system, you can make use of the non-bureaucratic pre-replacement service via the EURACOM service centre.

Conditions for the replacement service

Reasons for exclusion from guarantee:

- Abuse or manipulation of the equipment by unauthorised third-parties
- Total loss, such as mechanically destroyed or disassembled equipment
- Damages caused by force majeure (lightning, surge voltage damage, etc.)
- No faults in the equipment
- Serial number of the equipment does not correspond to that on the housing, or is illegible
- The PABX you have returned does not correspond to the system supplied as part of the pre-replacement service
- No purchase voucher

We trust you will understand that a flat rate for replacement/repair is generally charged in these cases.

Approval and Certification

The EURACOM systems 141F, 141, 180F, 180, 181F, 181 and 260F, 260, 261F, 261, 262F, 262 fulfil the demands of the following currently valid European Guidelines:

89/336 EWG	Electromagnetic Compatibility
91/263 EWG	Telecommunications Terminal Equipment
73/23 EWG	Low-voltage recommendation

Proof of conformity has been provided and the corresponding declarations and documents are filed at the manufacturer's premises.

Glossary of Technical Terms

A **a/b-Port**
Twin-wire interface for connecting analog terminal devices, such as telephone, fax, modem, etc. to the telephone network.

AOC-D
Advice of Charge - Display of the charge information during and at the end of a call in the ISDN network.

AOC-E
Advice of Charge - Display of the charge information at the end of a call in the ISDN network.

AVA
Call distribution - Designation for the distribution of central calls. If a caller calls the central of your PABX, you can specify which subscriber receives the call.

B **Baud rate**
Measure of the transmission speed when transmitting data (number of frequency changes per second).

B-Channel
Bearer channel in ISDN. A basic connection has two such bearer channels which can be used independently of one another for all ISDN services, e.g. simultaneous telephony and fax.

Blocked numbers
Call numbers or number ranges, the dialling of which is prevented (blocked) by the PABX.

Broker's call
Switching between different conversation partners.

C **Call forwarding**
Incoming calls are forwarded to a different telephone.

CCBS
Call Completion to Busy Subscriber.

CFB
Call Forwarding on Busy.

CFNR
Call Forwarding No Reply (after a predefined time).

CFU
Call Forwarding Unconditional - Call forwarding is performed directly

COM-Port
Serial PC interface.

Company separation
The separation of an PABX into two fundamentally different companies.

Cordless Telephone
Telephone system consisting of a cordless handset and a base station, communicating e.g. via DECT standard. Base station is often connected to a/b port.

CTI
Computer-Telephony-Integration - Configuring a PABX fuctionality on the PC. The telephony function is ported to a graphical user interface and the PC controls the telephone.

D

DDI
Direct Dial-In (to subscribers of a PABX)

Default
Factory setting

DIS
Door Intercommunication System - Makes it possible to communicate with a door telephone station via a telephone and to open the door.

DSS1
The D-channel protocol for controlling and managing EURO-ISDN connections.

DTMF-Dialling
Standardized and often used network dialling procedure for analog telephones, where the dialling numbers/characters are represented by different tone signals.

E

Emergecny Call Numbers
Call numbers or number ranges all subscribers can call, regardless of authorisation.

Euro-ISDN
The version of ISDN agreed on by 30 ISDN network operators. The D-channel protocol for controlling and managing EURO-ISDN connections.

F

FE
Earth connection for telecommunications equipment.

Free numbers
Call numbers or number ranges all subscribers with „Local" authorisation and above may dial.

H

HOLD
Placing a call on hold.

I **IAE**
Standardised ISDN socket into which ISDN terminal devices are plugged.

Interface
Connection point between two related systems. In order for both systems to be able to communicate with one another, the interface must be uniformly defined. There exist numerous Standards and Recommendations to this end. The most important interfaces between a computer and its peripherals are the parallel interface (Centronics) and the serial interface (RS232C)

ISDN
Integrated Services Digital Network. ISDN integrates telecommunications services, such as telephony, fax and data communication, in a single network. The digitalisation improves transmission quality and increases the transmission speed in contrast to conventional analog transmission.

J **Jumper**
A bridge-like connector used to connect electrical contacts located next to each other.

M **Mains Socket, 230 VAC**
A shock-proof plug socket for supplying 230 V from the public electricity network, provided with a contact that creates a connection between the equipment housing and earth. The user can thus be protected from an electric shock in the event of an equipment malfunction.

MCID
Malicious Call Identification

Modem
Modulator/Demodulator - converts digital data for transmission via an analog telephone network.

Mobile Telephone
Telephone system for use in th worldwide telecommunications network according to GSM standard.

MOH
Music On Hold - a feature of PABXs. The caller hears music when put on hold in an active connection or when being forwarded.

MSN
Multiple Subscriber Number, designation for the telephone numbers of an ISDN multiple subscriber connection (standard connection).

Multiple subscriber connection
ISDN Basic access with 3 telephone numbers (standard) and 2 independent lines (channels).

N **Network Termination**
The transition point between the telephone network and the subscriber (telephone socket). Analog socket in the case of an analog telephone connection and NTBA in the case of an ISDN connection.

NTBA
Network Terminator for Basic Access - seperate module, wall mounted, converting the external 2 wire U_{k0} interface into the 4-wire S_0 interface on the subscriber side.

P **PABX**
Private Automatic Branch Exchange - A system for handling calls between numerous terminal devices and the public telecommunications network. PABXs are not restricted to telephony, but can also handle data transmission services.

Pick Up
Picking up calls

PIN
Personal Identification Number.

Pin assignment
Connection plan for electrical contacts. The Pin assignment specifies which electrical line is connected to which contact (Pin).

Plug & Go
Automatic detection of the type of interface when a PABX is connected to the public network.

Port
Interface

PtMP
Point to Multipoint connection (multiple subscriber connection)

PtP
Point to Point connection (PABX connection)

PTT
Postal, telegraph and telephone (public network service provider)

Pulse Dialling
Conventional analog telephone network dialling procedure. Dialled characters are represented by a defined number of D/C pulses. The pulse dialling procedure is being replaced more and more by the Dual Tone Multiple Frequency (DTMF) procedure.

R **RS 232C interface**
Standard of the electronics industry for a serial interface. This standard specifies which tasks the various interface contacts have.

S

S_0-Bus
Basic ISDN interface with 3 call number and two lines as standard. Connection in parallel of a maximum of twelve ISDN sockets (IAE) with up to eight ISDN terminal devices connected and four terminal equipment (TE) being supplied with power in normal operation mode. Two TE are able to have an active connection at the same time. A distinction is made between internal and external S_0-Buses.

S_0-Interface
Internationally standardised 4-wire interface for connecting ISDN terminal devices. This connection is provided by the NTBA. Up to eight ISDN terminal devices or a PABX can be connected in this context. Phantom power feeding of connected TE is supplied in normal and restricted mode.

S_0 connection cable
The cable used to connect a terminal device to an ISDN telephone socket

Subscriber
Users connected to a PABX with their own call numbers.

T

TAE
Telecommunications socket for analog subscribers, used in German network.

TEI
ISDN Terminal Endpoint Identifier (Layer 2 Address)

TE
Terminal Equipment - A device that can be operated on a communications network or on a PABX, e.g. telephone, fax, answering machine, ISDN PC card, etc.

V

V24
Serial interface, corresponding to RS 232C, see also RS 232C

V24-cable
Cable for connecting devices to a serial interface.

X

X.31
Transmission of packet data via the D-channel.

List of key words