



family

Installation + Programmierung
installation + programming

Explanation of the pictograms and buttons



Acoustic calling signal (tone call)



Lift the receiver



Enter the telephone numbers and/or code numbers



Signal tone in the receiver



Make a call



Put down the receiver



Conference



Signal button for inquiry during a call

(flash with multifrequency telephones, programmed numbers with pulse dialling ones)



to



,



Number button for entering code digits



Caution! Warning of general danger



Warning! dangerous voltage



General information and tips



Important notice

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1. Introduction

By choosing a GESKO ISDN telecommunication unit, you have purchased a device that leaves nothing to be desired in terms of quality, design or value for money. It enables you to use ISDN features even with analogue terminal devices (telephones, fax machines, telephone answering machines and modems). With an external Euro-ISDN base connection, five to eight analogue extensions, an internal ISDN multipoint interface (family 116 only) as well as the opportunity to connect a door intercom system, it represents the ideal unit for private households, or for small companies and services, doctor's surgeries and lawyer's offices who have decided to move into ISDN.

The advantages of using ISDN are quite clear:

- Two external telephone calls can be made at the same time on each ISDN connection
- Calls can be transferred to another telephone number
- Direct dialling to all extensions.
- Using the "hold for inquiry/alternate" function you can shift from one call to another.
- Telephone conferences call with two external parties are possible

You can operate the analogue terminal devices attached to the telephone unit either by pulse or multi-frequency (DTMF) dialling. In the case of pulse dialling, each digit is allocated to a set number of short interruptions. When dialling, you can hear these interruptions in the telephone receiver. With DTMF (multifrequency), the faster dialling method, each digit is allocated to a specific tone.

To enter the inquiry mode or to alternate (toggle) between calls, your telephone will require an Hold for inquiry (call back) button. The telephone unit also supports the flash function, and (with pulse dialling telephones) a programmable digit for the inquiry (See section 1.3, "The hold for inquiry (call back) button" in the "Operating instructions" book).

If you use telephones that support CLIP (CLIP displays the number of the person who is calling), the GESKO unit will tell you who is calling as soon as the telephone starts to ring. Details on this in section 4.1.26, "Display of the caller's telephone number".

1.1 Notes on the operating instructions

The instructions for use come in two parts - the "Installation and Programming" and the "Operating instructions" book. This book outlines how to install and program the telecommunication unit. The other book explains how to operate the unit.

This part of the operating instructions, "Installation and programming" is split into six sections. The first section provides a brief introduction to your telecommunication unit. Section 2 provides safety information. Section 3 details basic programming, whilst section 4 covers the optional programming features. Section 5 explains how to install and start up the unit. The appendix includes technical data and an index.

The search for functions and features is made easier by the detailed content summaries at the start of each section. The index and the section numbering in the page margins also help to make things clear.

Please read the explanations in this section and the safety information before you start the installation. After installation and commissioning, program the unit following the instructions in section three. Once basic programming has been carried out, the unit is ready to use.

1.2 General information about the telecommunication unit

If the unit does not work one day...

- Use the "Operating instructions" book to check you are operating the unit correctly.
- Check the programming.
- See whether the terminal device and the telephone unit have been connected properly. Do not remove the upper part of the casing!
- If you are unable to solve the problem, please contact your dealer.
- In case of a power failure you only be able to make outgoing calls if you have an ISDN telephone with an emergency power supply on the internal S₀ bus (family 116 only). Once the mains voltage has been restored, the unit will function according to the previously installed program. The telephone unit stores all the data, with the exception of the internal call-backs, the reserved trunk lines and the dialling method of the terminal devices.

Installation

The GESKO "family 105", "family" 108 and "family 116" telecommunication units have been approved for connection to any Basic Rate ISDN line within the EEC and are marked with the CE mark. Section 5 of this book tells you how to install your telecommunication unit.

Power failure and emergency power supply

Your family 116 telecommunication unit is equipped with a mains failure relay. This means that if there is a power failure, a direct connection will be made between the network terminations of your external S_0 port and the internal S_0 bus, so that you can use a programmed telephone operated by an emergency power supply. Refer to the operating instructions of your ISDN telephone for details of how to program its emergency power supply feature. Note also that no other ISDN device connected to the internal S_0 bus may be programmed to use the emergency power supply.

Configuration levels

The GESKO telecommunication unit has three hardware configuration levels with the following connection interfaces:

	105	108	116
External ISDN S_0 bus	1	1	1
Internal ISDN S_0 bus	-	-	1
- analogue a/b extensions	5	8	6
- door intercom system (interface)	1	1	1

The features are identical for all configuration levels, the units differ only in the number of interfaces to the external devices.

These operating instructions apply for all versions of the telecommunication unit. If there are particular differences between the models in terms of programming and operation, this will be pointed out at the appropriate part of the text. Unless otherwise stated, the versions always refer to the number of interfaces available in your unit. This means for instance, that (for example) with the family 105, details can only be referred to for 5 analogue telephones, and that the internal bus can only be programmed with the family 116 unit.

Telephone number assignment

When the unit is delivered, the internal users have the following telephone numbers. These are also the port numbers to be dialled when the internal telephone extensions are called.

	analogue telephones	door intercom	internal S_0 users
105	11 to 15	27	-
108	11 to 18	27	-
116	11 to 16	27	30 to 39

You can change these numbers at your discretion. However they must have two digits (i.e. be between 10 and 99). Throughout these operating instructions, only the factory default numbers are used. If you have assigned other numbers, you must of course use them for operation and programming.

The terminal devices at the internal S_0 bus (family 116 only) must be programmed for the corresponding multiple subscriber numbers (MSNs). In other words, the telephone numbers assigned (or provided as factory defaults) must be entered in the terminal as MSNs. If you do not enter any MSNs in your ISDN telephone unit (or enter one that is invalid), the functions available with the telephone may be restricted.

Analogue / ISDN telephones

You can connect both conventional analogue telephones and digital ISDN telephones to your family 116 telecommunication unit. An internal S_0 bus has been provided for the ISDN telephones. On this bus, ISDN devices can be provided in the installed junction boxes. The junction boxes (connection boxes) for the analogue telephones are each directly connected with the connection terminals in the telecommunication unit. The exact procedure is described in sections 5.4 and 5.5 "Connecting the wiring" and "Connecting the internal S_0 bus".

The operating instructions describe how to use the unit with analogue telephones. The use of the specific features of individual ISDN telephones at the internal S_0 bus may deviate from the description given here. Read the details in the operating instructions for your ISDN telephone and pay attention to the notes describing the individual features.

You can only connect analogue telephones to the family 105 and family 108 telecommunication units, as these do not have an internal S_0 bus.

2. Safety information

Before you install the telecommunication unit and start using it, please read the following safety instructions. This section will tell you how to avoid danger to people and property - so it is vital you follow these safety instructions.



Proper use: This telecommunication unit is solely for use as a private branch exchange (PBX) connected to an ISDN line (DSS1; Euro-ISDN). Usage is limited to those features detailed in the operating instructions. The use of the unit for any other application is to be regarded as incorrect.



When installing the unit, take care to avoid damaging any hidden cables (or gas or water pipes).



Disconnect the unit from the mains before you begin to work on the connector panel.



Only remove the lower part of the lid covering the connector panel when working on the switches and connections. The unit may only be opened by authorised skilled technicians once it has been disconnected from the mains. Read point 3 of the guarantee for further information.



Install additional lightning protection devices for any lines that have to be laid outside buildings. This also applies when the unit is installed in an environment where lightning is very likely (in mountainous and remote areas).

3. The basics of programming the unit

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In order to be able to use the unit and make the most of its varied features, you must first provide it with the necessary operational data on your basic ISDN access connections and then configure the unit according to your preferences and requirements. You can either use a telephone that has been installed as a master set (a simple DTMF telephone connected to extension 11 is suitable for this purpose) or a PC.

"Programming" is a two-part process, comprising basic (essential) and optional programming. Basic programming is necessary so that the unit can be put into operation without complications. You can use the optional programming procedures to customise the unit's features to fit your needs.

Thanks to the set-up program supplied, configuration with a personal computer is particularly user-friendly. Details of how to start the set-up program are provided in section 4.2. Section 5.10 explains in detail how to install the program.

-  – You will need a telephone with a flash button at the analogue connections in order to transfer calls, automatically capture lines for internal calls and to be able to program. Please read "Hold for inquiry (call back) button" in section 1.3 of the "Operating instructions" book as well as section 5.9, "Setting the flash time at the telephone".

The unit has been supplied in a "plug and go" condition - it will accept all incoming calls and you can make outward calls with it straight away. However, if you wish to add any non-standard settings to the initial configuration, please perform the appropriate procedure(s).

You will find a summary of all programming procedures in section 6.3, "Programming - summary".

Configuration using the telephone is described below.

3.1 Condition as supplied (factory default settings)

	105/108	116
External S ₀ port	point to point connection	point to point connection
Internal S ₀ port	-	point to multi-point interface
Telephone numbers		
- analogue devices	11 - 15 / 11 - 18	11 - 16
- door intercom	27	27
- internal S ₀ users	-	30 - 39
Type of device		
- Telephone	11 - 15 / 11 - 16	11 - 16
- Telephone answering machine	- / 17	
- Telefax	- / 18	
Call allocations	see tables on next page	
Active call option (day /night service)	daytime service	
Master authorisation	port 11	
Exchange authorisation (for outward calls)	all unrestricted	
Call forwarding time	20 seconds	
Call waiting security	OFF in all cases	
"do not disturb"	OFF in all cases	
Outside line obtained	by dialling "0"	
Ringing tone rhythm	all rhythm 1	
Call rejection	all OFF	
Transmitting the telephone number		
- To the person being called	one for all	
- To the caller	one for all	
Automatic dialling	not active	
Call diversions	all OFF	
Call data		
- Print	all OFF	
- Internal storage	all OFF	
- Display of the telephone number	all OFF	
Charge unit		
- (Deutsche Telekom)	6 cts	
- Own	12 cts	
Telephone charge account	disabled	
Country code	Germany	
Charge information	facility	
Charge pulse	OFF for all	
Internal dialling tone	normal	
CLIP (Calling Line Identification Presentation)	OFF for all	

Index MSN / DDI	User								
	11	12	13	14	15	16	17	18	
	(only 108)								
0 / 00	X	X	X	X	X	X	X	X	X
1 / 01	X								
2 / 02		X							
3 / 03			X						
4 / 04				X					
5 / 05					X				
6 / 06						X			
7 / 07							X		
8 / 08								X	
9 / 09	X	X	X	X	X	X	X	X	X
- / 10-29	X								

family 105/108: Factory default settings for daytime and nighttime services and for call forwarding (for the external S₀ port)

Index MSN / DDI	User									
	11	12	13	14	15	16	17	18	30	31-39
0 / 00	X	X	X	X	X	X	X	X	X	X
1 / 01	X								X	X
2 / 02		X							X	X
3 / 03			X						X	X
4 / 04				X					X	X
5 / 05					X				X	X
6 / 06						X			X	X
7 / 07									X	X
8 / 08									X	X
9 / 09	X	X	X	X	X	X	X	X	X	X
- / 10-29	X								X	X

family 116: Factory default settings for daytime and nighttime services and for call forwarding (for the external S₀ port)

Index	User							
Bell button	11	12	13	14	15	16	17	18
	(only 108)							
1	X	X	X	X	X	X		
2	X	X	X	X	X	X		

family 105/108: Default setting for daytime and nighttime services of the door intercom

Index	User							
Bell button	11	12	13	14	15	16	30	31-39
1	X	X	X	X	X	X	X	X
2	X	X	X	X	X	X	X	X

family 116: Default setting for daytime and nighttime services for the door intercom

3.2 Programming the unit from the telephone

3.2.1 General information

All programming procedures (beginning with *9...) can only be performed at a master set. Only user 11 is set up as a master when the unit is supplied from the factory. However, other telephones can be given master status by programming (see 4.1.24, "Assigning master authorisation").

During each programming procedure, first remove the receiver, then dial the appropriate code digits.

A maximum entry length is defined for each code digit. If this length is exceeded, you will hear a negative or positive acknowledgement tone. Some procedures will immediately receive a positive acknowledgement. This will be explained in the texts on the individual examples.

If a procedure is not possible for any particular reason, you will receive a negative acknowledgement tone (see the explanation on audible tones at the beginning of the instruction manual). You will also get a negative acknowledgement tone if you try to program at a telephone that does not have master authorisation.

Put down the receiver after completing each individual procedure.

Bring the overall programming operation to an end by entering code digit *9999. This will store the data entered permanently and it will remain stored in case of a power failure.

3.2.2 Introduction to the programming mode

In order to change the telephone unit settings, you must first start the programming mode



- Lift the receiver and dial code number *9000. You will then hear a positive acknowledgement tone. Put down the receiver.

If you hear a negative acknowledgement tone, then either your telephone does not have master authorisation or another master set has initiated the programming mode.

The possible programming stages are described below. In order to start programming, lift the receiver and then enter a code number. This number must always begin with the buttons "* 9". Then enter a telephone number, or several if you wish. Terminate every input under one code digit by putting down the receiver.

Once you have performed the desired programming, exit the programming mode. If programming has not been completed, the unit will restore the previous settings after one hour.



- Lift the receiver and dial the code number *9999. You will then hear a positive acknowledgement tone. Put down the receiver.

3.2.3 Activating the factory defaults

After you have started the programming mode, you can activate the standard factory default settings by means of the following procedure.



You can return to the factory default settings at any time, even if you have saved a different program in the meantime. However, please note that when you activate the default setting, all the telephone numbers stored (including the defined speed dialling numbers) will be lost. You will then have to carry out basic programming again.

3.2.4 Restoring previous settings

In programming modes, you can try various settings. The settings will immediately become effective, but will only be stored permanently once you have left the programming mode. Before doing the latter, you can restore the settings previously saved by performing the following:



3.2.5 Deleting user-activated features

Users can activate the following features on their telephones: call waiting security, "do not disturb", return call, call diversion, follow me, automatic dialling, transmitting the telephone numbers and activating the call diversion for the door intercom. You can also delete these settings by means of the following procedure:



3.2.6 Programming the telephone units' connections

Programming the mode of operation "point to point" or "point to multipoint" connection

Program the telephone unit's mode of operation by entering:

- the telephone number in the case of a point to point connection this mode is used for DDI (direct dialling in) (Code No.: *9010) or
- MSNs (multiple subscriber numbers) in the case of a point to multipoint interface (Code No: *911X)

The setting is only effective after the programming mode has been ended with the code *9999. When you change the type of connection the unit will perform an automatic reset.

Programming the telephone numbers

You must program the mode of operation and the corresponding telephone numbers. Depending on whether you have applied to the telephone company for a point to multipoint interface point to point connection; you will receive either a point to multipoint telephone number with a block of direct-dialling numbers or multiple subscriber numbers. You must program these telephone numbers in the telephone unit. The telephone unit's telephone number plan provides for you to assign these numbers to an index. This index runs from 0 to 9 for a point to multipoint interface and from 00 to 29 with a point to point connection. The three types of calling: daytime service, daytime service combined with call forwarding, and nighttime service (see "Call allocation" in section 4.1.3) relate to this index.

- At the same time as programming the telephone number, you are also programming the mode of connection. That means, when you enter the multiple subscriber number (MSN), you can change the mode of connection (preset for a point to point connection), so that your unit is configured for the point to multipoint interface. Changing the type of connection does not change the other defaults!

When the type of connection of an external S₀ bus is changed, the unit will carry out an automatic reset after the telephone number has been entered and the programming mode ended. Any calls in progress at the time will be cut off.

Programming the units' telephone number (point to point connection)

If you want to connect the unit to the point to point connection and have applied to the telephone company for such a connection, you will be allocated to a single telephone number with a block of extension num-

bers. The unit's telephone number is the telephone number with which the telephone unit can be reached (e.g. 555 22). By dialling the extension number as well, an external user can contact the user of any telephone.

Now program this unit's telephone number as follows:



- Enter your unit's telephone number, without the area code, e.g. 55522 (no more than 12 digits) and put down the receiver.

Programming the direct dialling numbers and their length (point to point connection)

You must now specify the extension numbers for the terminal device connections from the block of direct dialling available. Generally, the telecommunication company will provide you with numbers 00 to 99. You can select a single-digit or a double-digit direct dialling number from this block of numbers. Then, you can assign as many as 30 direct dialling numbers to the index (00 to 29).

The "0" is a special case. This is normally assigned to the switchboard. No other digit will be accepted that follows the 0. This means that the next digit after the zero will not be analysed (even if you have programmed the unit for double-digit direct dialling). So the direct dialling numbers from 01 to 09 cannot be used. They will all ring the same terminal device as the 0.

If the block of telephone numbers provided by the telecommunication company is enlarged, it is then possible to program a three-digit direct dialling number.

Code No.	Input	Number of digits	Explanation
*901	1	1 / 2 / 3	Entering the length of the direct dialling number

Program the assignment of the direct dialling numbers as follows: Assign index 00 to the central telephone number 0. The length of the direct dialling number must correspond to the number of digits in the direct dialling number (exception: telephone number 0).

Code No.	Input	Index	Input	Explanation
*901	3	00...29	XX	Assigning telephone number XX to the direct dialling index

Programming the multiple subscriber numbers (point to multipoint connection)

If you have a point to multipoint interface, the telecommunication company will allocate you up to ten multiple subscriber numbers. Each terminal device on the point to multipoint interface can be assigned one or more of these multiple subscriber numbers.

In the case of a point to multipoint interface, the assignment of the MSNs to the index is not automatic. Instead, you must program it yourself.

Code No.	Index	Multiple subscriber number
*911	0	1. MSN
*911	1	2. MSN
*911	2 to 9	3. - 10. MSN

Example: Let's assume you are assigned the multiple subscriber numbers 555 22 116, 555 22 117 and 555 22 118. Proceed as follows in assigning the numbers to the index:



- Lift the receiver and enter code number *911 and the index 0. Program your multiple subscriber number, without the area code, e.g. 555 22 116 and put down the receiver.

Do the same with the other multiple subscriber numbers. Assign these to 1 and 2, as stated in the index. If you have been assigned more telephone numbers, then program the others 3 to 9 in accordance with the index.

In performing these program steps, you will have completed the (compulsory) configuration stage. You can now make a telephone call using the unit. If you want to stop programming at this stage, proceed as follows:



3.2.7 Programming the service indication with terminal devices

Analogue connections:

Program the analogue terminal connections for the types of terminal device connected - in other words, define which connections are to operate as telephone, fax, modem or answering machine. This definition is important because in ISDN there is a service indicator feature (not true for analogue networks). If you declare the terminal to be a fax connection (for example), then only another fax with its correctly assigned service indicator will be allowed to reach the machine. The same is true in the opposite direction. Naturally enough, this only applies where the caller also has an ISDN connection. The advantage of service indication is that you do not need any additional devices such as fax switches, filters or the like if you want to call two different devices that use the same number.

In addition to the above-mentioned types of terminal device, combination units are also available, e.g. a fax machine combined with a telephone, or a modem with a telephone answering machine function. The use of combination units often leads to problems with service indication, as a telecommunication unit cannot know which of the services currently has to be transmitted or which service is required. Therefore there is also an additional type of terminal device - the connection for a combination unit.

This connection ensures:

- That in the case of an incoming call, all calls, independent of service characteristics, are transferred to the combination unit. This connection thus behaves exactly like a connection on the analogue network.
- When there is an outgoing call, the telecommunication unit must transmit the service as well. The unit must thus be informed which service is required. You can give the unit this information by using different digits to get an outside line:

- | | |
|--|---|
| - Obtaining an outside line with 0 or *310 | - telephone service characteristic |
| - Obtaining an outside line with *311 | - Fax telephone service characteristic |
| - Obtaining an outside line with *312 | - Service characteristic for a combination unit |

(Refer to the explanations in 2.1.2, "Special occupation of an outside line" of the "Operating instructions" book)

Programming the terminal device type

The programming of the terminal device type can only be carried out for the analogue connections, not for the devices at the internal S₀ connection of the family 116.

Now program the terminal device connections, depending on the type of device connected. Every time you program a terminal device connection, you must put down the receiver before programming another.

Terminal device type	Code No.	Input
Telephone	*951	(xx)
Combination Unit	*952	(xx)
Answering machine	*953	(xx)
Fax	*954	(xx)
Modem	*955	(xx)

Example: You want to program internal connection 14 for the "combination unit" terminal device type. Proceed as follows:



Proceed in the same way for the other internal connections.

- Depending on this programming, particular features are either possible or only possible to a limited extent.
- Calls can be taken over from a telephone answering machine.
- It is not possible to hold a call or initiate a return call to an answering machine, fax, combination unit or modem.
- Calls from a fax machine with an incorrectly assigned service indicator cannot be connected to your fax machine, you may wish to assign your fax machine as a combination unit.

A master set can only be programmed as a telephone or combination unit.

Digital connections:

The terminal device itself defines the service at the digital connections of the family 116's internal S₀ port. You do not need to program a service for the devices connected to it.

3.2.8 Programming the priority circuit for emergencies (alarm port)

The alarm port is a special type of terminal device. It is used to program a priority circuit for use in emergencies. A user port set up as an alarm port will always be given preferential treatment when exchange lines are being seized. If all the external lines within the unit are occupied, one of the connections will be broken off and an inter-exchange connection will be set up for the alarm port. For instance, an alarm system can be established at this port with the function of dialling a prep-programmed telephone number in the event of an emergency. There is no influence on the condition beyond the unit (in the case of a multipoint interface), in other words, no alarm can be dialled if all the B-channels outside the unit are occupied. Otherwise, an alarm port is treated in the same way as a combination unit port (except for the master authorisation).

Terminal device type	Code No.	Input
Alarm port	*958	(xx)

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In this section, all those procedures are summarised that transcend the basic programming of the unit. If you own an IBM compatible PC, paragraph 4.2 describes the first steps of programming with the set-up program.

4.1 Programming from the telephone

4.1.1 Changing the users' internal telephone numbers

When the unit is delivered, the internal users have the following telephone numbers - which at the same time are the port numbers to be dialled when the internal extensions are called.

	analogue telephones	door intercom	internal S ₀ users
105	11 to 15	27	-
108	11 to 18	27	-
116	11 to 16	27	30 to 39

You can change these numbers at your discretion. However they must have two digits (i.e. be between 10 and 99). Only the factory default numbers are used throughout these operating instructions. If you have assigned other numbers, you must of course use them for operation and programming.

The terminal devices at the internal S₀ bus (family 116 only) must be programmed for the corresponding multiple subscriber numbers (MSNs). In other words, the telephone numbers assigned (or provided as factory defaults) must be entered in the terminal as MSNs. If you do not enter any MSN in your ISDN telephone unit (or enter one that is invalid), the functions available with the telephone may be restricted.

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Port No.	Telephone No.	Explanation
★936	xx	yy	Port number xx assigned telephone number yy

4.1.2 Programming the digits for pulse dialling inquiry calls

To be able to use all the features of an analogue telephone on your telecommunication unit, the telephone will need to have a hold for inquiry (call back) call button. For telephones with multifrequency (DTMF) dialling, this is usually the flash or recall (R) button (see section 5.9, "Setting the correct flash time ..."). If your telephones use pulse dialling, you can initiate inquiry with this unit by dialling a freely selectable digit (between 1 and 9).

-  - In the operating instructions, "R" always refers to hold-for-inquiry. If you have a pulse dialling telephone and have programmed a digit for inquiry, you must now dial the digit.

- If you have pulse dialling telephones, the automatic allocation of outside lines should not be programmed, because the inquiry (call-back) digit will then be directly transmitted to the exchange and it will no longer be available as hold for inquiry button for use when telephoning internally.
- If you program a digit for pulse dialling inquiry calls you cannot assign any internal telephone number that begins with this digit (see "Changing the users' internal telephone numbers").

Code No.	Input	Explanation
★937	n (1...9)	Pulse dialling inquiry call with digit n

4.1.3 Programming the call allocations for external calls (day / night service)

The GESKO telecommunication unit offers two varieties of call allocation, the daytime service and the nighttime service. When programming these call allocations, you can specify for each direct dialling number or MSN which terminal devices shall ring when a call is received - both in daytime and nighttime services. In addition to the daytime service you can program call forwarding. If you use this feature, in daytime mode an incoming call will then be diverted.

You can also specify call allocations (coupled to the daytime and nighttime services) for each of the two bell buttons of the door intercom system.

In the factory default setting, the call allocations for daytime and nighttime services and for call forwarding are identical. This default applies both for point to point and point to multipoint mode of connection. The daytime service without call forwarding is activated. (see section 3.1, "Condition as supplied (factory default settings)")

Programming call allocation and call forwarding

You can activate the three types of call allocation from any telephone. However, you can only program the call allocations with a master set or when using the PC setup program.

In order to program the different types of call allocation, you must first dial the code for the respective telephone number, then the index as well as the telephone numbers of the corresponding terminal device.

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Call allocation for a point to multipoint connection point

Call allocation	Code No.	Index*	Terminal devices
Daytime service	★912	0 - 9	11 12 13 ...
Night service	★913	0 - 9	11 12 13 ...
Call diversions	★914	0 - 9	11 12 13 ...

Call allocation for a point to point connection point

Call allocation	Code No.	Index*	Terminal devices
Daytime service	★912	00 - 29	11 12 13 ...
Night service	★913	00 - 29	11 12 13 ...
Call diversions	★914	00 - 29	11 12 13 ...

*) At the multipoint interface, the index indicates the multiple subscriber numbers assigned to it. At the point to point connection point, the index indicates the direct dialling numbers assigned to it.

Example: You want to change the settings for the daytime service at the point to point connection point and specify that the 0 only rings with telephone 11. Proceed as follows:



- The various call allocations are activated by different dialling code numbers.

- activate daytime service: Code No. ★401
- activate daytime service with call forwarding: Code No. ★402
- activate nighttime service: Code No. ★403

4.1.4 Programming the call forwarding time

If the "daytime service in combination with call forwarding" option has been programmed, the telecommunication unit will only ring for an incoming call in line with the "daytime service" call option. After the call forwarding time has expired, it will then ring in line with the "call forwarding" option.

In the default setting, call forwarding is activated after 20 seconds. In programming mode, you can change the call forwarding time with the following procedure:

	Code No.	Seconds
Call forwarding time	★927	005 - 110

4.1.5 Call allocation for the door intercom system - internal

When making the call allocation for the door intercom system, you can specify which telephones will ring when the bell button is pushed. You can specify two different call allocations, linked to the daytime and nighttime services. In the default setting, the terminal devices ring as described in the table on page 12.

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Call allocation door intercom	Code No.	Bell button	Terminal devices
Daytime service/CFT	★9151	1 or 2	11 12 13 ...
Night service	★9152	1 or 2	11 12 13 ...

- It only makes sense for a door intercom system to ring for those terminal devices programmed as "telephones" or "telephone answering machines". In the default setting, all terminal devices will ring that are programmed as telephones, as well as the first MSN of the internal S₀ connection (with the family 116). If you have modified the defaults for the terminal connections (e.g. 15 is now a fax), you will have to make corresponding changes in the call allocation for the door intercom.
- After 25 seconds, the doorbell call will be automatically ended, though it can be extended by pressing the doorbell again. Persistent ringing will not prolong the call.

4.1.6 Re-routing a call from the door intercom outward ("pharmacy" or "drug-store" connection)

It is possible to dial an external number when pressing the first bell button. This telephone number (without an exchange identification code) is entered in programming mode as follows:

Code No.	Input
★9153	without "0" to get an outside line (max. 25 digits)

Example: You want to enter a telephone number for the door intercom diversion.



- Lift the receiver and dial code number ★9153 followed by the external telephone number you want (without a 0 to get an outside line). Then put down the receiver.

- You must never select an answering machine or a mailbox as the destination of an external door intercom call diversion because the door intercom will not be able to break the connection itself. Considerable costs can arise in cases like this (for instance, with a cellular telephone that is currently connected to a mailbox).
- The call diversion from the first bell button can be activated or deactivated from any telephone by dialling code numbers (★4150 = OFF / ★4151 = ON).

- The external telephone number will be called for not more than one minute if the user does not respond.
- While the call diversion is being activated, all telephones will receive the special dialling tone.

4.1.7 Activating the nighttime service by time-control

Normally, any user can re-program the day / night mode. The user can choose between 'daytime service', 'daytime service in combination with call forwarding', and 'nighttime service'.

This switch-over can also be made automatically (time-controlled).

Programming

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Input	Explanation
★940		Deactivate timing control
★941		Activate timing control
★942	hhmm	Input of time at which the night service is to be activated
★943	hhmm	Input of time at which the night service is to be deactivated again

(hh = hours, 2-digit / mm = minutes, 2-digit)

Note, you must use a 24 hour clock input.

Please note that either the daytime service or the daytime service with call forwarding options must be active when you activate the timing.

Example: You want the nighttime service to be activated every evening at 6 p.m. and deactivated every morning at 7 a.m. and that then the daytime service with call forwarding option is active.

First program the time-controlled nighttime service. Put down the receiver after each individual string of numbers and lift it again. Dial the following numbers:

- Dial **★402**. This will activate the daytime service with call forwarding.
- Dial **★9000**. This starts programming mode.
- Dial **★9421800**. This programs 6 p.m. ("1800") for the beginning of the nighttime service.
- Dial **★9430700**. This programs 7 a.m. as the end of the nighttime service.
- Dial **★941**. This activates the timing.
- Dial **★9999**. You now exit the programming mode.

4.1.8 Programming a call diversion from a remote location

Programming a PIN for the remote modification

There are two ways of modifying the call diversion from a remote location. With either method, a modification can only be made if a four-digit PIN number has previously been programmed.

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Input	Explanation
★922	XXXX	Enter old PIN XXXX
	YYYY	Enter new PIN YYYY
	YYYY	Then enter new PIN YYYY again to confirm

- When the unit is supplied, PIN number "0000" is programmed. The use of the PIN will prevent any remote modification of the call diversion. You first have to program another four-digit number.

Method 1: Calling up a telephone number reserved for remote modification

Specify a number (MSN/direct dialling number) to be reserved for remote modification purposes. This telephone number will then be used exclusively for this purpose. When you call this number from an external location, your unit will accept the call after 10 seconds, without any telephones ringing. You can then change your call diversion remotely.

Using a reserved telephone number to activate or deactivate the remote modification of the call diversion

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Activating/deactivating the remote modification at the point to multipoint connection point

Code No.	Input	Explanation
★925		MSN for deactivating remote modification of the call diversion
★926	X	Activate MSN for remote modification of the call diversion

Activating/deactivating the remote modification at the point to point connection point

Code No.	Input	Explanation
★925		Direct dialling number for deactivating remote modification of the call diversion
★926	XX	Activate direct dialling number for remote modification of the call diversion

- The normal call allocation of this MSN/direct dialling number is deactivated as soon as the activation has been carried out.

Method 2: Calling up a telephone answering machine enabled for remote modification

Specify an answering machine connected to your unit and which can be called up normally and via which you can remotely modify your call diversion. This method has the advantage that you do not need to reserve a telephone number. However, you will need to have a suitable answering machine.

Using a telephone answering machine to activate or deactivate the remote modification of the call diversion

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Input	Explanation
★9240		Remote modification via answering machine OFF
★9241	XX	Remote modification enabled at answering machine XX (only with analogue devices)

4.1.9 Programming an exchange authorisation (call barring)

The default setting when the unit is supplied is such that each user is authorised to make any number of calls anywhere in the world. You can limit the authorisation for outgoing calls for each user. Whatever type of authorisation programmed the number of the emergency services can be called from any telephone. You can assign five different levels of exchange authorisation:

- No authorisation. This means, the user is only allowed to make internal calls.
- Authorisation for incoming calls
- Permission to make local calls, i.e. all the telephone numbers of a local network and all the local numbers that have been programmed.
- Authorisation to make inland calls, i.e. all telephone numbers can be called that do not begin with 00.
- Unlimited authorisation (except for specific types of numbers which are blocked)

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Inputting the authorisation:

Exchange authorisation	Code No.	Terminal
None	★962	xx
Incoming only	★963	xx
Authorisation for local calls	★964	xx
Authorisation for domestic calls	★965	xx
Unrestricted authorisation	★966	xx

4.1.10 Programming targeted exchange line seizure

Allocation of a terminal device to a telephone number

Normally, you can seize an exchange line by dialling "0" or by automatic exchange line seizure. In this case you can program the unit so that it knows which telephone number is to be transmitted to the exchange. This is done by assigning the terminal device to a particular telephone number of the external S₀ port.

Example: The user with internal telephone number 13 wants to transmit the MSN with index "0" as a telephone number if the exchange is seized with the "0" or with the automatic exchange line seizure feature.



- Lift the receiver and dial code number ★934, "0" for the index of the desired MSN and "13" for the telephone number, then put down the receiver.

If no telephone number has been programmed, the number which is the first in the call allocation for the terminal device, will be used.

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Programming at the **point to multipoint connection point**

Code No.	Index	Input	Explanation
★934	0-9	XX	Assigning user XX to the telephone number

Programming at the **point to point connection point**

Code No.	Index	Input	Explanation
★934	00-29	XX	Assigning user XX to the telephone number

Programming the authorisation of the terminal device to use a telephone number

At a point to multipoint interface you can assign authorisation for the use of a telephone number individually to each terminal device for each telephone number.

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Programming at the **point to multipoint connection point**

Code No.	Index	Input	Explanation
★935	0-9	11 12 13 ...	User may occupy telephone number

Programming at the **point to point connection point**

Code No.	Index	Input	Explanation
★935	0	11 12 13 ...	User may occupy external port

Please note that all users who are allowed to make outgoing calls using the chosen telephone number must be entered one after the other (before the receiver is put down).

For a point to point connection, the occupied telephone number cannot be freely dialled - the telephone number which is always used is that of the terminal device which is the first in the call allocation. To do this, a "0" must be used in place of the MSN index.

4.1.11 Programming local area numbers

In addition to assign different exchange authorisations, you can also allocate 20 local area numbers. These can be called by all users who have (at least) authorisation to make local area calls.

Programming is performed using a master set in programming mode (*9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Local area numbers
*9900 to *9919	max. 25-digits

The allocation of local area numbers can make sense if (for instance) your company frequently calls a particular national number in a particular town, but you otherwise only want to grant your staff authorisation for local area calls.

Proceed as follows to program the first local area number:



- Dialling *9901, for example, without any further number, will delete the local area number 1.

4.1.12 Programming the blocking of specific types of number

In the same way as with local area numbers, you can also block other groups of numbers, such as 0930. You can block a total of 20 numbers. It is only possible to call numbers that begin with these numbers from a master set.

Programming is performed using a master set in programming mode (*9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Blocked number
*9920 to *9939	max. 25-digits

- Dialling *9921, for example, without any further number will delete the blocked number 1.

4.1.13 Programming speed dialling destinations

You can store 200 speed dialling destinations in the unit. These speed dialling destinations can be dialled by every user who has at least authorisation to make external calls.

The speed dialling destinations can only be specified using a master set in programming mode (without the exchange identification code).

Code No.	Telephone number
*9700 to *9899	max. 25-digits

Program the speed dialling destinations as follows:



- Lift the receiver. Dial code number *9700 for the first speed dialling destination. Enter the desired telephone number and put down the receiver.

- The speed dialling destinations must be entered without the "0" necessary to get an outside line.
- If you program the unit using a PC, you can enter the speed dialling destinations on the computer and assign a name to each speed dialling number. If the computer is connected to a printer, you can print out a list of the speed dialling destinations and give it to each user.
- If you use the ISDN call forwarding feature, the call forwarding destination is a speed dialling destination.

4.1.14 Setting up the music-on-hold

The unit offers two methods for playing music to an external user when the line is on hold.

When the unit is in the factory default setting, the user will hear the internal music-on-hold. If you connect an external music source to the MOH socket, the internal music will be switched off and your own choice of music played. If you do not want to have music-on-hold on the unit, simply insert the plug supplied (without cable and without any source of music connected) into the MOH socket. The internal music-on-hold will be switched off and there will not be any external music either.

Supplying external music-on-hold

It is possible to provide an external source of sound. For this, you will need a music source with a headphone connection, such as a CD player or tape deck. The volume is set on the source of music.

- The connected load for the external music-on-hold source is listed in the technical data.
- Feed in the music-on-hold at connection MOH (MOH socket on the left termination panel). Socket assignment: Signal inside, earth outside.
- The music can only be switched on or off externally.

4.1.15 Programming an emergency service number for automatic dialling

You can program an emergency services number that will be dialled automatically after 10 seconds -all the internal user has to do is to lift the receiver. The precondition for this is that the internal user has previously activated the automatic dialling option for his or her telephone (see 2.1.12, "Automatic dialling" in the "Operating instructions" book).

The emergency number can be either an internal or external number. When dialling an external telephone number, the exchange identification code 0 must also be dialled.

No emergency services number has been programmed when the unit is delivered.

Programming is performed using a master set in programming mode (*9000, see section 3.2.2, "Introduction to the programming mode").



- Lift the receiver and dial code number *923.
Dial the telephone number you want.

internal 11 or 12 or ...

external 0 + telephone number (max. 25 digits)

and put down the receiver.

After you have entered the emergency services number, you should test it by activating automatic dialling.

- The feature for automatically obtaining an outside line is not effective when automatic dialling has been activated.
- When the automatic dialling has been activated, the telephone will receive the special dialling tone.
- Automatic dialling is activated or deactivated at the telephone concerned by dialling code numbers (*450 = OFF / *451 = ON).
- Dialling *923 will delete a programmed telephone number.

4.1.16 Programming different ringing rhythms

You can select three different ringing rhythms with the unit. For example, if a party uses one multiple subscriber number for private purposes and the other professionally, and he or she assigns a different ringing rhythm, when the telephone rings the user will immediately be able to recognise whether it is a private or business call. In the default setting, ringing rhythm 1 can be heard with all incoming external calls.

Programming is performed using a master set in programming mode (*9000, see section 3.2.2, "Introduction to the programming mode").

Programming ringing rhythms at a point to multipoint connection point

Code No.	Input	Explanation
*931	0 - 9	Ringing rhythm 1 for MSN
*932	0 - 9	Ringing rhythm 2 for MSN
*933	0 - 9	Ringing rhythm 3 for MSN

Programming ringing rhythms at a point to point connection point

Code No.	Input	Explanation
*931	00 - 29	Ringing rhythm 1 for DDI
*932	00 - 29	Ringing rhythm 2 for DDI
*933	00 - 29	Ringing rhythm 3 for DDI

Example: You are operating a multipoint interface and want to assign the first multiple subscriber number (index 0) a different ringing rhythm.



- Modem, fax and telephone answering machine are always allocated ringing rhythm 1 to assure that these devices are addressed safely.
- In the case of an extension set up as a combination unit, you may have to adjust the number of ringing rhythms needed for a terminal device that automatically takes a call after receiving a specific number of rings. This is because some devices understand ringing rhythms 2 or 3 as being double or treble rings. If the terminal device does not recognise the call, you must program ringing rhythm 1 for this number.

4.1.17 Programming automatic outside line seizure

When using the unit, the user gets an outside line by dialling "0". It is also possible to seize an outside line automatically when you lift the receiver.

Advantage: This feature is useful if you want to let visitors make a call easily (where the unit is used in a business environment) or to make it easier for children or elderly people to make calls (in a private household).

Disadvantage: If you program an automatic outside line seizure for a terminal device, you must take into consideration the fact that internal dialling and a whole range of features (e.g. programming from the master set) will only be possible after the signal button R has been pressed.

Programming is performed using a master set in programming mode (*9000, see section 3.2.2, "Introduction to the programming mode").

Code No. Automatic exchange line seizure w. terminal device

*956	OFF	XX
*957	ON	XX

Example: Terminal device 14 is your visitor's telephone, which you have fitted with automatic dialling.



– The automatic outside line seizure feature only makes sense with terminal devices that use either multifrequency dialling or which have a flash button (R button). With telephones that use the pulse dialling method, no internal dialling or use of special features will be possible directly after the receiver has been lifted.

4.1.18 Printing call data

If you have connected the unit to a printer using a serial interface, call data can be printed at the time the calls are made.

Examples:

1. Outgoing call:

P:1 I:00 From 11 20.02.99 20:13 00h03m15s 005E DM 1,25 61696031

User 11 made a call lasting 3 minutes and 15 seconds at 8:13 p.m. (20:13) on 20 February 1999. The call was made to 61696031. The call cost 5 charge units (equivalent to DM 1.25). The call was made on the first external connection on your telephone number (port 1, index 00, see targeted exchange line seizure with a telephone number). This is the first

multiple subscriber number (MSN) in the case of a point to multipoint interface connection. In the case of a point to point connection, the direct dialling number is given in two-digit form.

2. Incoming call:

P:1 I:01 To 12 20.02.99 21:13 00h02m10s 000 E DM 0.00 03061696031

User 12 took a call at 9:13 p.m. (21:13) on 20 February 1999. The call lasted 2 minutes and 10 seconds. The number of the caller was 03061696031. The caller rang your second telephone number of your external connection. No costs arose from the call.

3. A call that was not taken:

P:1 I:00 Call 20.02.99 22:13 00h00m00s 000 E DM 0.00 03061696031

A call was received on 20.02.99 at 10:13 p.m. (22:13) but it was not answered at this unit. The caller's number was 03061696031.

The first telephone number of the external port was called.

– User 27 (or the internal telephone number assigned) are printed for calls that have been re-routed outward from a door intercom. User 11 is printed if the number used for changing the call diversion from a remote location is called.

Programming is performed using a master set in programming mode (*9000, see section 3.2.2, "Introduction to the programming mode").

Note, cost of call information can only be printed if your local telephone company provides this service.

Incoming and outgoing connections:

Code No.	Input	Explanation
*9200		Print all call data OFF
*9201		Print all call data ON
*9202	XX	Print call data for user XX OFF
*9203	XX	Print call data for user XX ON
*9205		Print without telephone number
*9206		Print with complete telephone number
*9207		Print with truncated telephone number
*9208	001 to 255	"Network" charge units (in hundredths)
*9209	001 to 255	Internal charge units (in hundredths)

Incoming calls that are not accepted:

Code No.	Explanation
*92040	Printing OFF
*92041	Print without telephone number
*92042	Print with truncated telephone number
*92043	Print with complete telephone number

4.1.19 Storing call data

It is only possible to program using a PC.

Call data can be stored in the unit. With the aid of the program supplied, you can read out the data on your PC.

Whether the telephone number will be shown in full, abbreviated or not at all is up to you when you programme the unit.

The following data is included in these data records.

For outgoing external calls:

- the internal user who made the call,
- the index of the occupied number,
- the telephone number dialled,
- the date, time and duration of the call and
- the charge units used up with the costs that arise.

For incoming external calls:

- the internal user who took the call,
- the index of the telephone number that was called,
- the telephone number of the caller if known and
- the date, time and duration of the call.

For calls that are not taken:

- the index of the telephone number that was called,
- the telephone number of the caller if known and
- the date and time of the call.

Programming the storage of call data

When the unit is supplied, the internal storage of call data option is not activated. You must first enable storage using the PC configuration program. You have the same options here as with the printing of call data.

4.1.20 Call-charge pulses while a call is being made

The unit allows analogue call-charge pulses to be transmitted. To do this, the unit evaluates incoming charge information from the exchange and generates charge pulses. This means you can see the charge on you telephone while the call is being made if the telephone has a charge indicator. Charge pulses cannot be transmitted during inquiry mode, i.e. they are only transmitted during an active external call.

Please note that you need a base terminal with charge information during the call (AOCD). At the moment you still have to apply to the telephone company for this feature for which you will be charged separately. Normally, the unit generates 16 kHz charge pulses. If you need 12 kHz charge pulses (often normal in some countries) you can re-program the telecommunication unit using a simple procedure (see section 4.1.25, "Country-specific settings").

Programming

When the unit is supplied, the generation of charge pulses is not activated. You must activate it by either using the PC installation program or with a master set in programming mode. Only activate those telephones that really do have a charge counter. The setting is 16 kHz when the unit is supplied.

Programming is performed using a master set in programming mode (*9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Input	Explanation
*9300		Charge pulse OFF for all users
*9301		Charge pulse ON for all users
*9302	XX	Charge pulse OFF for user XX
*9303	XX	Charge pulse ON for user XX
*9305		Set 16 kHz charge pulse
*9306		Set 25 kHz charge pulse

Note, this type of operation can only be used if your local telephone company provides advice of charge information.

4.1.21 The telephone charge account ("small charge account")

Each user has a charge account. The charge account limits the time or number of units for outgoing external calls. So that the sum of the charges for each user can be monitored, these charges are compared with the charge account and the call is ended if need be.

In normal operation or when supplied, the feature for evaluating the charge account is not activated. As a result, each user can call as often as desired. The only limitation is the type of authorisation. The charge account can be activated or increased at a master set, or at the PC using the configuration program.

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	User	Sum	Explanation
★904	XX	YYY	Activating and increasing the charge account for user XX by YYY DM
★905	XX		Deactivating the charge account for user XX

-  – The charge account can only be increased in whole numbers of currency units.
- Any credit remaining will be taken into account when the increase is made. However, the amount will be rounded up to the nearest whole number of currency units.

Note, this type of operation can only be used if your local telephone company provides advice of charge information.

Example: The old charge account was € 10. The charge for time used up for calls amounted to € 6.75. That leaves a credit or balance in favour of € 3.25. You now increase the account by € 10. The new charge account now amounts to € 14.

4.1.22 Telephone answering machines

Difficulties can arise with older telephone answering machines. The machines concerned do not stop recording once the caller has put down the receiver. The reason for this is that engaged tone is transmitted after the call has ended. To get around this problem, you can prevent the engaged tone. This is only possible at a port set up as an answering machine.

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Input	Explanation
★928	XX	Engaged tone activated for user XX (engaged tone is switched off when the caller puts down the receiver)
★929	XX	Engaged tone deactivated for user XX

4.1.23 Programming a call rejection

One advantage of ISDN is that you can have two external connections on each S_0 connection at the same time. You can program your unit to activate call rejection if you do not want to accept other calls on the MSN or DDI you are currently occupying. By means of this you can prevent a further call being signalled on the line (i.e. by another telephone ringing or by call waiting signal in your receiver) while you are making a call. The caller will then hear the engaged tone. You can specify separately for each telephone number (MSN/DDI) whether you want to use call rejection or not. When the unit is supplied, the call rejection feature is not activated. A call on another telephone number (e.g. a fax) will ring according to the programmed call allocation while you are speaking.

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Programming call rejection at a point to multipoint connection point

Code No.	Input	Explanation
★917	0	Call rejection OFF for all MSNs
★917	1	Call rejection ON for all MSNs
★918	0 - 9	Call rejection OFF for MSN
★919	0 - 9	Call rejection ON for MSN

Programming call rejection at a point to point connection point

Code No.	Input	Explanation
★917	0	Call rejection OFF for all DDIs
★917	1	Call rejection ON for all DDIs
★918	00 - 29	Call rejection OFF for DDI
★919	00 - 29	Call rejection ON for DDI

-  – Even when you have not programmed call rejection, you can also reject a call waiting call by procedure R★49 (see section 2.1.7, "Rejecting a call waiting call" in the "Operating instructions" book).

4.1.24 Assigning master authorisation

In order to program the unit, to print out the telephone charges and to activate/deactivate ISDN call forwarding, the user must have master authorisation. When the unit is supplied from the factory, only user 11 is set up as a master. However, you can also assign master authorisation to any other user.



- Several users can be masters at the same time, though only one can be in programming mode at any time.
- Any reprogramming of the master authorisation will only become valid when you have finished programming.
- A user who wants to have master status must be set up either as a telephone or combination unit and must at least have "incoming exchange access".
- When delivered (or if the last master has been de-programmed) user 11 is set up as master.

Programming is performed using a master set in programming mode (*9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Input	Explanation
*907	0	Only user 11 has master authorisation
*907	1	All users may have master authorisation
*908	XX	User XX has no master authorisation
*908	XX	User XX has master authorisation

4.1.25 Country-specific settings

If the unit is for use outside Germany, you will need to make specific settings for the country where it is to be used. These relate to the country code and (in some cases) the type of charge information.

When the unit is delivered from the factory, the unit is set up for operation in Germany.

Country code settings

When the country code has been correctly set, the correct currency units will be used when the call data is output (either during the print-out from a connected printer or when using a terminal program). In addition, separate country-specific protocol changes are activated in the unit's controls.

Programming is performed using a master set in programming mode (*9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Input	Explanation
*902	00	Germany (condition as supplied)
*902	01	Switzerland
*902	02	Netherlands
*902	03	Austria
*902	04	Russia
*902	05	United Kingdom
*902	06	Spain
*902	07	Belgium
*902	08	Denmark

Types of charge information

Charge information is normally transmitted as "facilities". However, in some countries with older configuration levels, such information is also transmitted as display information. This option can therefore be separately selected.

Programming is performed using a master set in programming mode (*9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Input	Explanation
*903	0	Charge information as facility (condition as supplied)
*903	1	Charge information as display information

Charge pulse

Following the arrival of charge information during the call (AOCD = Advice of charge during call), the charge pulse is normally relayed to the telephones as a 16 kHz impulse. In some countries (Switzerland and Austria, for example), 12 kHz is also used. You can set the telecommunication unit for 12 kHz impulses by carrying out programming as described in section 4.1.20, "Call-charge pulses while a call is being made".

Programming is performed using a master set in programming mode (*9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Input	Explanation
*930	5	16 kHz
*930	6	12 kHz

Specific internal dialling tone

Instead of programming the normal internal dialling tone, you can also program another, specific dialling tone in your unit. This specific internal dialling tone is a steady tone, briefly interrupted every 2 seconds. This dialling tone may be needed for correct operation of the unit with some terminal devices in certain countries. The internal special dialling tone is then transmitted in the same rhythm as the specific internal dialling tone. Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Input	Explanation
★906	0	Internal dialling tone, normal
★906	1	Specific internal dialling tone

4.1.26 Display of the caller's telephone number (CLIP)

Analogue telephones are available that display the telephone number of the caller). This feature is also known as CLIP (Calling Line Identification Presentation). You can also use this feature on analogue extensions of your GESKO telecommunication unit if you have a telephone that supports it. This means that you will be able to see who is calling as soon as the telephone starts to ring.

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Input	Explanation
★945	XX	Telephone number display for user XX OFF
★946	XX	Telephone number display for user XX ON (mainly BEOCOM 2500 before 1998)
★947	XX	Telephone number display for user XX ON (normal CLIP)

- The telephone number display must be activated for each desired extension of the unit. If necessary, the feature must also be activated in your telephone. Refer to the instructions for your particular type of telephone.
- There can be a number of reasons why a telephone number is not displayed (even if you have programmed the unit and your telephone correctly). For example, the caller has suppressed the telephone number or the call has come from within a different network without number forwarding. In such cases, the unit will not have been forwarded a telephone number and so will be unable to display the number on the telephone.

- So that the telephone number can also be displayed if ringing tone rhythm 2 or 3 has been programmed, the first call always uses rhythm 1. In the subsequent interval, the telephone number is transmitted to the telephone and all subsequent calls are signalled in the programmed ringing tone rhythm.
- You must program automatic outside line seizure for your CLIP telephone in order to be able to use all your telephone features to the full. Then you will be able to dial telephone numbers from your personal telephone directory, the CLIP memory or the automatic redial memory. (★957 XX = automatic outside line seizure for user XX ON).

Switching off the display during internal calls

Normally the telephone number of the internal caller is shown in the display of the telephone being called, if the telephone number display feature has been activated. These calls can be added to the telephone's list of callers and thus take up memory space. You may wish to keep this space free for external calls only. For this reason it is possible to suppress the internal number display for internal callers.

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Input	Explanation
★948	XX	Internal telephone number display OFF at user XX

Entering your own dialling code in the unit

Normally, the number of the incoming caller is shown with its national dialling code - even if the call is coming from the same local network. However, you enter it without the local dialling code into your telephone's directory (assuming you have one). You can enter the dialling code in your unit so that the dialling code is not shown when you receive a call from within your own local network, and so you can find the name in your personal telephone book (even when the number is listed there without a local code).

Programming is performed using a master set in programming mode (★9000, see section 3.2.2, "Introduction to the programming mode").

Code No.	Input	Explanation
★916	Dialling code	Storing your own dialling code
★916		Deleting the dialling code

4.1.27 Programming the time

Normally, the time within the unit is compared with the time at the exchange for each outgoing call. If needed, it will be reset. Should it ever be necessary to program the unit's clock (e.g. before the first outgoing exchange connection), you can enter the time and date yourself. This is done with procedure *944. The day of the month, then the month, year, hour and minute are added (two digits for each).

Note, please check whether your local telephone company provides the time, if not you can set the internal clock as detailed.

Programming is performed using a master set in programming mode (*9000, see section 3.2.2, "Introduction to the programming mode").

Example: You want to enter: 27 April 1999, 2.45 p.m. (14.45).



4.1.28 Programming the telephone number for the remote loading of the unit software

In the event that the telephone number programmed for loading the unit software update is no longer the current number of the server, you can re-program the number. The software update procedure itself is described in section 4.4.

Programming is performed using a master set in programming mode (*9000, see section 3.2.2, "Introduction to the programming mode").



- Lift the receiver. Dial code number *995 and the telephone number for the remote software loading and then put down the receiver.

-  - The present number for remote loading is already programmed when the unit is delivered. However, as this might possibly have to be changed for technical reasons, you are able to enter a different telephone number.
- Ask your dealer or call the hotline if you do not know the valid number for the remote update.

4.1.29 Exiting programming mode

After you have made all the settings, exit programming mode. At the same time, save the new settings. These will be stored even in the event of a power failure.



4.2 Programming the unit from the PC

You can program the unit with a connected personal computer even if you have no knowledge of a programming language. Easily understandable menus guide you through the program. The software needed is provided on the 3.5" disks and CD supplied. Section 5.10 describes the installation of this software in detail.

4.2.1 Starting the setup program

- Click on the "❖ GeskoCfg" symbol in the "Gesko GmbH" folder under the Windows *Run Programs* start button to start the configuration program.
- Follow the setup program menu.
- When you have programmed your settings, save them under a file name of your choice. Then transfer the data to the telecommunication unit.

4.2.2 Programming the telephone unit

- Remove the lower cover plate.
- Insert the Western (RJ-45) plug of the cable supplied into the unit's RS 232 C interface and put the cable's socket in the computer's COM port. If you need an extension cable, this will have to be assigned as in Fig. 4-1.
- Configure the unit. An interactive menu will help you enter details.
- Save your configuration.
- Transfer the configuration to the unit.
- Exit the setup program.
- Pull out the cable and replace the cover of the unit.

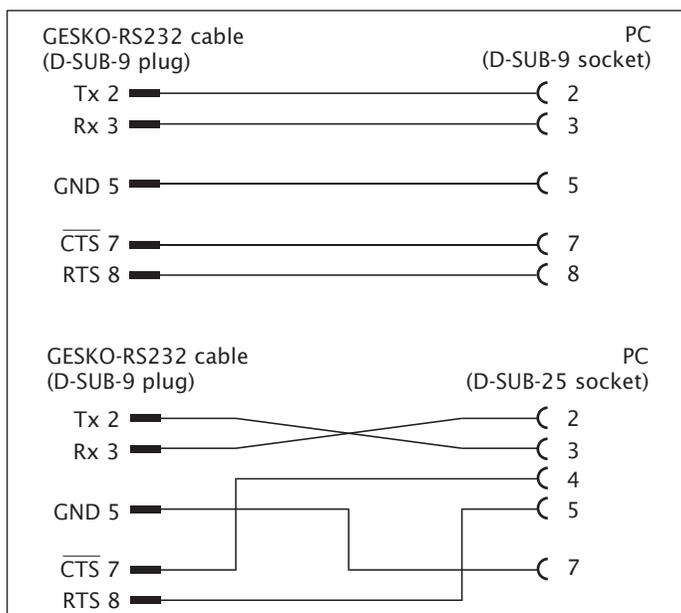


Fig. 4-1: Extension cable for connection to the PC

4.3 Remote maintenance/remote configuration

If you have any problems when programming the unit and you have signed a maintenance contract with your dealer, your dealer can transfer the prepared configuration data to your unit remotely and you will not need to perform any programming stages yourself. The requirement here is that you tell your dealer how your unit is to be set up, e.g. which telephone numbers you have and which telephones should ring when specific numbers are called.

If your dealer is unable to make remote configurations, let him give you details of a technical service provider who can provide this service.

For reasons of security, you must start the remote configuration mode of operation yourself. No one from outside will then be able to intrude into your unit without your authorisation. When you put the receiver down again, this mode of operation will be deactivated. You will have to repeat this procedure if you wish to perform a further remote configuration.

Note, it will not be possible to remotely programme while a call is in progress.

Starting remote configuration of your telecommunication unit

You start remote configuration by entering a special number in your telephone. There are two ways of doing this:

- Dial *3838 to get a line and dial your dealer. Once the connection has been made nothing else is required. Your dealer will do the rest.
- When you are connected with your dealer (it does not matter which party made the connection) press the "hold for inquiry" (R) button and dial *3838. You will then hear the positive acknowledgement tone and will be connected again. You do not need to do anything else. Your dealer will complete the task.

Making an external connection for remote configuration

In order to establish an external connection for remote configuration, you must dial *3838 to get a line.



- Lift the receiver and dial *3838. You will now hear the external dialling tone. Now dial the external telephone number and make the call.

-  - During remote configuration, the unit will be unable to make any other call connections. Before starting the configuration procedure, the unit must be in idle condition (i.e. all other receivers must be on hook) otherwise you will hear the negative acknowledgement tone.
- If you have programmed the unit to get an outside line as soon as the receiver is picked up, you must first press the hold for inquiry (R) button.
- You will hear a short special tone at the beginning and end of the data transmission for configuration. Do not put down the receiver - this will stop transmission. Wait until you hear your dealer in the receiver again and you are informed that configuration is complete.
- You can also start the remote configuration mode during an external call that does not begin with *3838. You do this by pressing the "hold for inquiry" (R) button and then dialling *3838. You will then hear the positive acknowledgement tone.

4.4 Loading new unit software

The software for our telecommunication units is continually updated and adapted to changes in ISDN and exchanges. Your new unit, the GESKO family 105/108 or family 116, will enable you to keep your operating software right up-to-date - without the need to do anything to the unit itself. To load updates, call the GESKO server and the latest release of the GESKO software will be transmitted to your unit. The configuration of your telecommunication unit will not be altered. After the transfer of data, your unit will have the same setting as before.

For technical reasons, there can be changes in the way that remote loading occurs as well as in the telephone numbers programmed as default when supplied. If you have any questions about remote software loading or problems in carrying it out, our hotline will be able to help.

If at all possible, do not make any calls while loading the new unit software. The calls will be interrupted if the unit performs a unit-reset during the course of the remote loading. The entire procedure lasts several minutes. While it is going on, all the internal users will hear a special internal dialling tone on lifting up the receiver.

The update procedure

Before you start the updating procedure, please ensure that no calls are in progress because during the course of this procedure the unit will cut off all calls.

Start the remote updating by making the following input at a master set:



- Lift the receiver and dial *58, followed by your PIN (default when supplied: 0000). You will hear the positive acknowledgement tone. Put down the receiver.

The telecommunication unit will now reset (any calls being made at the time will be cut off) and dial the pre-programmed number of the GESKO server. When the remote software loading is complete, your telephone will ring and you will hear a positive acknowledgement tone when the software has been successfully loaded. If you should hear a negative acknowledgement tone, the procedure has not been completed successfully. Try again.

After you have put down the receiver, the unit will again be reset. Then, when the software has been successfully loaded, the new program will run in your telecommunication unit.

-  - Should you hear the negative acknowledgement tone after dialling *58 and the PIN, the reasons could be as follows:
 - The procedure was performed at a telephone that does not have master authorisation,
 - The PIN was entered incorrectly, or
 - No valid telephone number for the GESKO server has been programmed.
 In the event that the programmed telephone number is not the same as the current telephone number, the number for the remote software loading can be re-programmed (see section 4.1.28, "Programming the telephone number for the remote loading of the unit software").
- You can also initiate the remote loading procedure with a PC and using the set-up program. This is performed by means of the "transmission - firmware remote loading" menu item. Then, in the appropriate window, enter the PIN and the device that is to be called at the end of the remote loading procedure so that you will be able to hear the acknowledgement tone after picking up the receiver.

5. Installing the unit

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The GESKO "family 105", "family 108" and "family 116" telecommunication units have been approved for connection to any Basic Rate ISDN line within the EEC and are marked with the CE mark.

5.1 Contents

	105/108	116
Drilling jig	x	x
3 dowel plugs and 3 screws	x	x
8-pin connection terminals	1/2	1
4-pin connection terminals	-	2
2-pin connection terminals	1	-
Jack-plug for connecting external music-on-hold	1	1
S ₀ -exchange cable with two Western (RJ-45) plugs	1	1
Cable for configuring the unit via a PC (RS-232C- cable, Western (RJ-45) 9-pin socket)	1	1
Set of operating instructions	x	x
Operating instructions (in short summary form)	x	x
CD for programming the unit from a PC	x	x

5.2 Selecting the assembly location

The unit should be mounted on a wall. The following rules must be adhered to when choosing a place to mount the unit:

- The telephone unit may only be installed in a room that is dry and where there is no danger of explosion. It must not be installed near air-conditioning units, radiators, equipment that emits unauthorised radiation, locations subject to excessive sunlight, in environments with excessive levels of dust, or places where it can be splashed with water or chemicals. It must not be subjected to great humidity.
- The ambient temperature should not be lower than 5°C nor higher than 40°C.
- The telephone unit must be mounted vertically on a sound, even wall with the power cable pointing downwards.
- There must be no risk of mechanical damage at the place where the unit is installed.
- The casing must have a clearance of at least 50 mm (upper and lower) from any other objects.
- The distance from the telephone unit to the 230 V mains socket and to the ISDN terminal or network terminations must not exceed 0.6 m (the power cable is approx. 1 m long).
- We recommend using a separately earthed circuit for the 230 V mains supply so that the telephone unit can not be put out of operation by shorting caused by other domestic appliances.
- The location where the unit is mounted must be adequately ventilated. The unit must not be covered by curtains or similar obstructions.

5.3 Assembly

Only insert the 230 V power cable in the socket after the unit has been mounted and once the wiring has been checked.

You may only remove the lower part of the casing when you mount the unit. The upper part may only be removed by service staff, with the mains plug disconnected.

Proceed as follows to fix the unit to the wall:

1. Fix the telephone unit in such a way that the cables protrude through the openings on the lower edge of the casing (in buildings where the domestic wiring is under plaster).
2. After you have chosen a location, use the jig provided to mark where the holes should be drilled.

3. Drill the holes at the three points at which the unit will be fixed (use the drilling jig). Take care to avoid damaging any hidden cables (or gas or water pipes).
4. Insert the dowel plugs.
5. Drive a screw into the upper dowel plug far enough that it protrudes by about 3 mm.
6. Take the telephone unit and fix it up, hooking the upper lug over the screw head.
7. Now screw the unit tight at the two points right and left of the slit on the lower side of the casing.

5.4 Connecting the wiring

Only connect the lines and cables on the telephone unit when the 230 V power cable has been disconnected and when there is no link to the public telephone network. On the following pages (Fig 5-2 to 5-5) you will find information on the terminal markings of the junction boxes that can be used and the assignment of the installation cable wires, as well as installation diagrams for the ISDN Network Terminator connection with ISDN junction boxes or Universal junction boxes.

The analogue telephones are normally connected to the unit via telecommunication sockets which are connected to the unit's connection terminals by two screws for each terminal device. You can install these sockets wherever you need them on your premises. If you use analogue terminal devices in very close proximity to the installed unit, you do not need to install the telecommunication access unit sockets if you use the plug & play module (available as an optional extra). This module is mounted directly to the telecommunication unit's terminal strip and provides enough room for up to four terminal devices. You can obtain the plug & play module from your dealer.

Connect the unit as follows:

1. Feed the connecting cables through the slit on the lower side of the casing.
2. Strip the cable. The cable insulation must extend into the casing.
3. The individual wires should be fed to the terminal in a small loop (5 to 10 cm).
4. Fit the screw-type terminals to the connection wires.
5. Insert the screw-type terminals for the individual lines to their planned locations (see illustration below).

- Insert one of the two Western (RJ-45) plugs of the exchange cable (supplied) for S_0 connection in the corresponding Western socket of the external S_0 connection in the telephone unit. Insert the other Western plug of the exchange cable into the junction box or telephone company's network terminator only when installation has been completed.
- You can connect the interface adapter (available as an option) for a door intercom system to the telephone unit as per standard FTZ 123D12 interface specification (inc. bell button signalling) specifications.
Note, where 3-wire devices are used (common in the UK) always use a master socket with an internal ring capacitor, otherwise your telephones may not ring.

5.5 Connecting the internal S_0 bus

In order to connect digital terminal devices to the internal S_0 bus of the family 116, you must lay a bus. Fig. 5-1 shows you how the wiring is performed. You can install up to 12 junction boxes (connection boxes) upon which up to 8 terminal devices can be operated at the same time. Terminal resistors must be mounted in the last junction box. The bus's conductor length must not exceed 125 m.

In the event of a power failure, the internal S_0 bus is switched directly to the first external S_0 bus. You will then only be able to make an outside call with a telephone that can use an emergency power supply. Also note that only one device connected to the internal bus can be programmed to use emergency power supply.

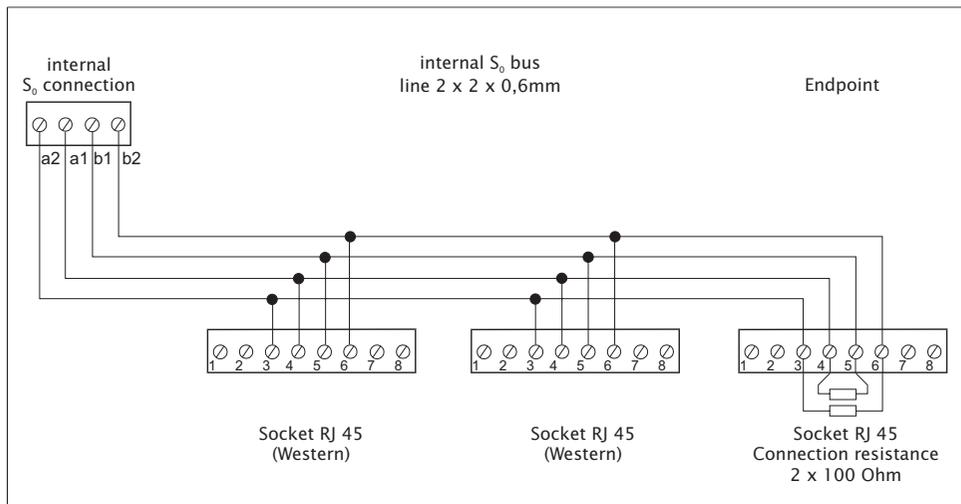


Fig. 5-1: Connecting the wiring for the internal S_0 bus (family 116)

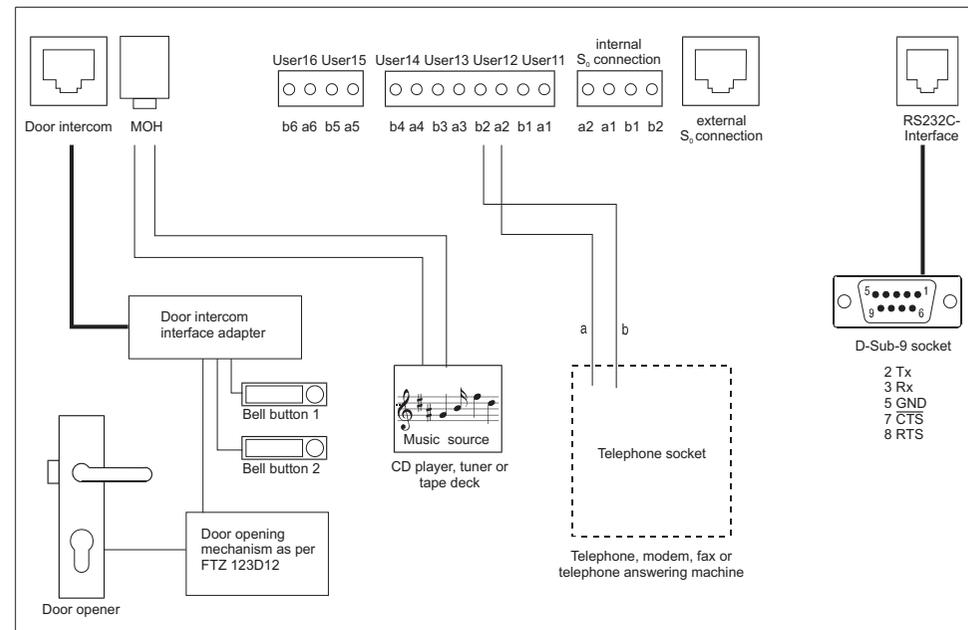


Fig. 5-2: Connecting the wiring to the family 116

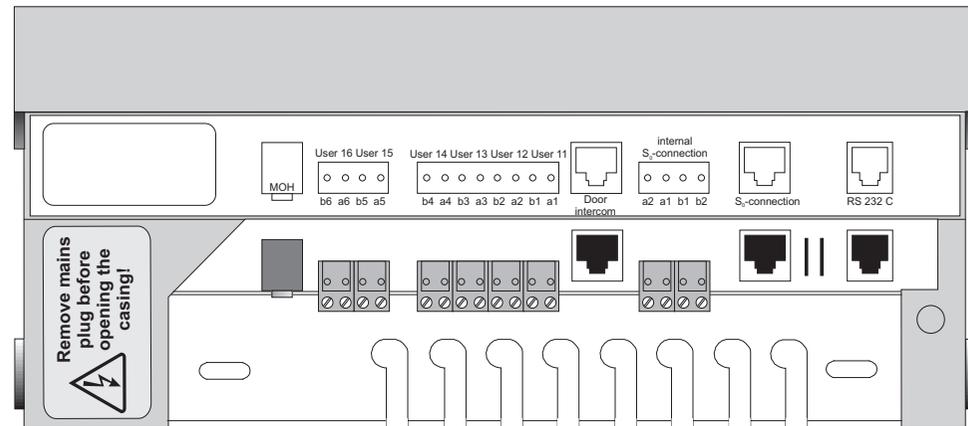


Fig. 5-3: family 116 connector panel

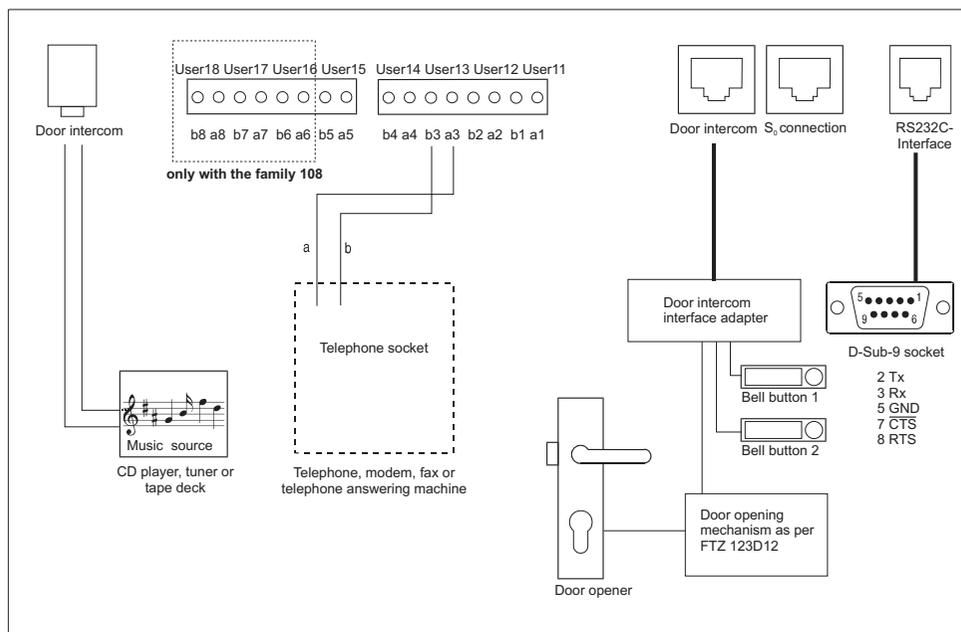


Fig. 5-4: Connecting the wiring to the family 105/108

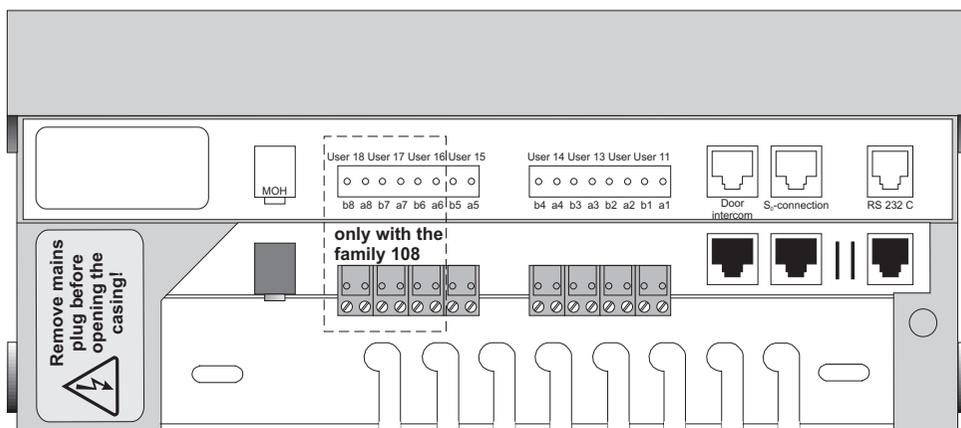


Fig. 5-5: family 105/108 connector panel

- The maximum contact load for the "TS" relay (the relay for activating a doorphone amplifier) and the "TO" relay for the door-opening mechanism in the door intercom interface adapter is 24 V / 300 mA.

- If one connection wire of the telephone unit is led outside the building, we recommend fitting this line with an external lightning protection device. (see also section 2, "Safety information")

5.6 Terminating resistors

The two switches next to the socket for the external S_0 interface (see Fig. 5-6) connect the terminating resistors for the connection wires. Both switches must be open or closed at the same time. When the unit is delivered they are closed, as the telephone unit is prepared for a single connection point.

The switch must be closed at the multipoint interface if the unit is directly connected to the network termination via the cable supplied with the unit. However, if you use junction boxes with integrated terminating resistors on your ISDN S_0 connections, the switches must be open.

An incorrect switch position can lead to malfunctions.

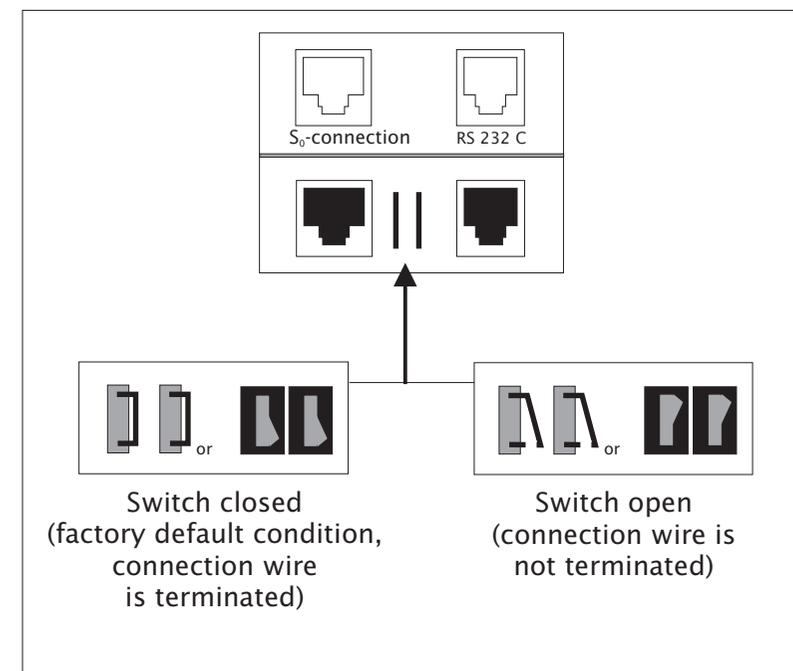


Fig. 5-6: Terminating resistors for the connection wire

Fig. 5-7 shows the basic layout of an ISDN line for the multipoint interface. The two pairs of leads (each with 100 Ohm) must be connected to the connection endpoints. These resistors are already built into the Network Terminator (NT) (endpoint 1).

At endpoint 2, you have three possibilities for terminating the ISDN line:

- You can install a junction box at the end of the line with integrated terminating resistors. The switches for the terminating resistors of the corresponding external connection (see Fig. 5-6) must be open in this case.
- You can install two 100-Ohm resistors into the last junction box as shown in Fig. 5-7. The switches for the terminating resistors of the corresponding external connection (see Fig. 5-6) must also be open.
- You can connect the unit at the last junction box of the ISDN line. In this case, the switches for the terminating resistors of the corresponding external connection (see Fig. 5-6) must be closed.

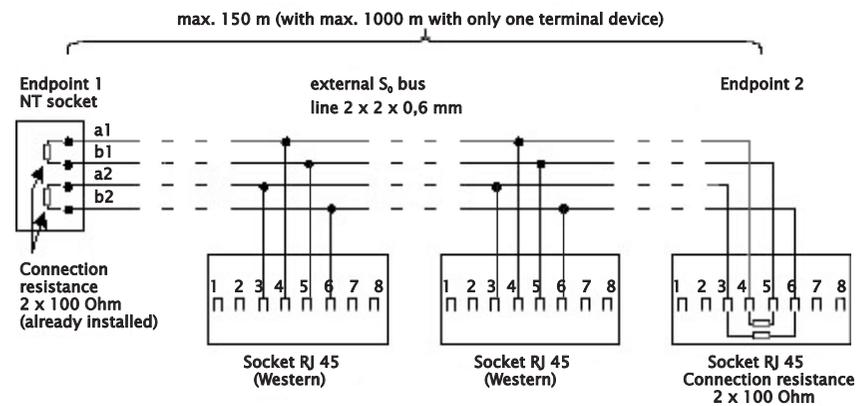


Fig. 5-7: ISDN line (S₀ bus) with terminating resistors

5.7 Connecting the printer

You can connect a serial printer to the RS 232C interface in order to print call data. Of course, instead of a printer, you can also connect a PC with a suitable terminal program (e.g. "terminal" from the Windows accessories program group).

Normally, a serial printer has a 25-pin socket as serial interface. You will need a printer cable that can be inserted in the serial interface cable (Western (RJ-45) plug to D-SUB plug).

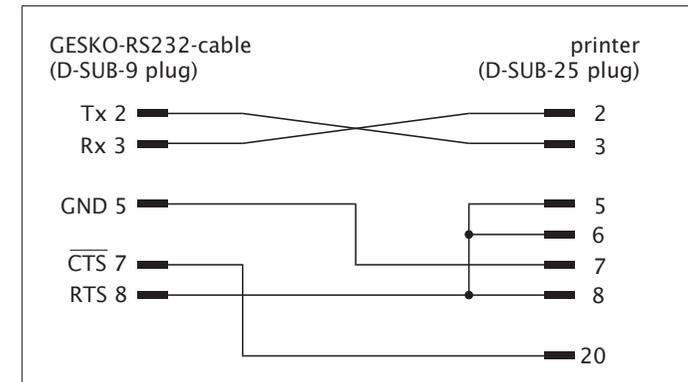


Fig. 5-8: The contact assignments of the serial printer cable

Your printer (or terminal program) must be set up as follows.

- 19200 Baud, 8 bits, 1 stop bit, no parity

In order to print out the call data immediately, the printer must be permanently switched on and connected to the telephone unit. The telephone unit can also store the call data if you have carried out the appropriate programming (see section 4.1.19, "Storing call data"). Using the PC, you can then read out and further process the stored call data. The sum of the charges is also stored if this information is transmitted from the exchange.

5.8 Commissioning

- Connect the analogue terminal devices. The devices connected must have official approval.
- For telephones with adjustable flash or recall (R) buttons, set the flash time at 80 ms. (see 5.9, "Setting the correct flash time")
- Insert the Western (RJ-45) plug of the exchange cable with one end in the unit's Western socket (see Fig 5-2/5-4) and the other end in the telecommunication socket (network termination) or telephone company Network Terminator (NT) (see 5.4, point 6).
- Close the casing by pushing the three plastic pins of the cover into their openings and click the lid on.
- Connect the telephone unit by inserting the power cable plug.

After switching on the telephone unit you can telephone internally. For external traffic, you must program the mode of operation of the telephone unit (point to point or point to multipoint) and the DDI telephone number or multiple subscriber numbers (MSNs).

You can also program the telephone unit before inserting the ISDN connection.

You can change the telephone unit's basic settings by programming via a master telephone.

To avoid making a faulty selection, dial any number on a terminal device with multifrequency dialling. This way the telephone unit will recognise the dialling method.

If you change the dialling method at a terminal device from multifrequency to pulse dialling, dial a number greater than 2.

If you have two terminal devices running at *one* internal connection (e.g. a fax and a telephone), both must use the same dialling method.

5.9 Setting the correct flash time on a telephone with multifrequency dialling

If your telephone is set for multifrequency dialling (also known as voice-frequency or DTMF) you should note the following so that you can relay calls within the unit:

If the hold for inquiry (R) button can be programmed, this time must be 80 ms or 90 ms, although the unit accepts times from 50 ms to 110 ms. Most telephones can be set to a time in the order. Please look in the instruction manual concerned under "operation on private branch exchanges", "dialling code", "hold for inquiry (R)" or the like.

If your telephone cannot be set with a short flash time, it is possible to set the time for a valid flash signal in the unit at 350 ms. We can only advise the use of this method as a last resort. The disadvantage of this solution is that putting down the receiver very briefly (or giving the hookswitch a slight push) will be interpreted as a flash and the other user will not be cut off but held.

To program this longer time, dial code *9591 on a master telephone in programming mode.

If you want to program the normal flash time again, dial code *9590 at a master telephone in programming mode.

Proceed in the same way if you want to program automatic outside line seizure on a telephone with multifrequency dialling, so that you can also conduct internal conversations and carry out programming.

5.10 Installing the set-up program

5.10.1 PC - minimum requirements

- IBM- or compatible PC with 80486DX2-66 CPU or higher
- 3.5" disk drive or CD-ROM drive, if you are installing from the CD-ROM.
- 4 MB RAM, hard disk, VGA graphics card
- MS DOS 5.0 operating system with Windows 95

5.10.2 Installing the program

The goods supplied include floppy disks or a CD-ROM for installing the programs under Windows.

If you install from the CD-ROM, follow the instructions on the disk. Otherwise proceed as described below.

Before you install the program, make back-up copies of the original disks. If you need to know how to make back-up copies, consult your operating system handbook.

- Start Windows program
- Inset disk 1, with the "configuration disk 1" label in drive a: or b:.
- Click on the Windows *start* button
- point to *settings* and
- then click on *control panel*.
- Then double-click on *software*.
- Click on *install/uninstall* index card register if the index card is not active.
- Now click on the *install* command button.
- The *install program from disk or CD* form will appear. Now click on the *next* command button. "*a:\setup.exe*" for the installation program will appear in the command line.
- Click on the *next* button. This will execute the installation program.
- Follow the instructions on screen.

After successful installation, start the configuration program by clicking on the "❖ GeskoCfg" symbol in the Windows *start programs* start button in the "Gesko GmbH" folder.

6. Appendix

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6.1 What you need to observe with the family 105 and family 108

The "family 105" and "family 108" differ only in terms of hardware configuration level. The differences in equipment are described in section 1.2, "General information about the telecommunications unit". If you have decided to install the family 105, please note the following limitations:

Users

Only users 11-15 are possible with the family 105. In other words, if you try to program or call a user 17, the family 105 data entries will be rejected.

Internal S_0 connection

The family 105 and family 108 have no internal S_0 connection. The programming that can be conducted for this component is not possible with this unit.

6.2 What you need to observe with the family 116

There is one internal S_0 connection for the family 116. Thus in addition to the analogue users 11-16, you can also use MSNs 30-39 for digital devices.

6.3 Programming - summary

The following table provides a summary of all procedures and the appropriate codes to dial. The appendix to the "Operating instructions" book provides an overview of the features.

Code No.	Index	Input	Explanation
General tasks of installation technician			
*9000			Start programming mode
*9001			Activate factory defaults
*9002			Restore old settings
*9003			Delete all settings activated by user(s)
*9009			Reset unit
*9999			Exit programming mode
Programming the point to point connection point			
*901	0	max. 12-digit telephone No.	Set up unit telephone number
*901	1	X	Number of digits in the extension numbers X=1-3
*9013	00 - 29	XX	Assigning telephone number XX to the extension number index
Programming the point to multipoint connection point			
*911	0 - 9	max. 12-digit telephone No.	Assignment of the MSNs to the index
Programming the types of calling for external numbers			
*912	0 - 9 / 00 - 29	11 12 13 ...	Call allocation daytime service for external port with MSN/DDI
*913	0 - 9 / 00 - 29	11 12 13 ...	Call allocation night service for external port with MSN/DDI
*914	0 - 9 / 00 - 29	11 12 13 ...	Call allocation call diversion for external port with MSN/DDI
Programming the types of calling for door calls			
*9151	1 / 2	11 12 13 ...	Call allocation daytime service for door intercom - button 1 or 2
*9152	1 / 2	11 12 13 ...	Call allocation nighttime service for door intercom - button 1 or 2
Programming an external destination for door intercom calls			
*9153		max. 25-digit telephone No.	Call diversion destination 1. bell button outward

Code No.	Index	Input	Explanation
Enter dialling code			
*916		max. 7-digit telephone No.	Enter your own dialling code
Call rejection			
*917	0		Call rejection OFF for all MSNs/DDIs
*917	1		Call rejection ON for all MSNs/DDIs
*918	0 - 9 / 00 - 29		Call rejection OFF for MSNs/DDIs
*919	0 - 9 / 00 - 29		Call rejection ON for MSNs/DDIs
Specify print of data for incoming and outgoing calls			
*9200			Print all call data OFF
*9201			Print all call data ON
*9202		XX	Call data for user XX OFF
*9203		XX	Call data for user XX ON
*9205			Print without telephone number
*9206			Print with telephone number
*9207			Print with truncated telephone number
Specify print of data for calls that were not accepted			
*92040			Printing OFF
*92041			Print without telephone number
*92042			Print with truncated telephone number
*92043			Print with complete telephone number
Define charge factors for the charge accounts			
*9208		001 - 255	Value of a charge unit in hundredths (Telekom)
*9209		001 - 255	Value of a charge unit in hundredths (internal)
Programming the charge account			
*904	XX	YYY	Activating / increasing the charge account for user XX by YYY EURO
*905	XX		Deactivation of the charge account for user XX

Code No.	Index	Input	Explanation
Personal identifi. No. (PIN) for remote modification of call diversion destination			
*922	XXXX	YYYY YYYY	XXXX = old PIN / YYYY new PIN
Answering machine enabled for remote modification of call diversion destination			
*9240			Remote modification via answering machine OFF
*9241		XX	Remote modification enabled at answering machine at user XX
MSN/extension No. enabled for remote modification of call diversion destination			
*925			MSN/DDI for deactivating remote modification of the call diversion
*926	0 - 9 / 00 - 29		Activate MSN/DDI for remote modification of the call diversion
Programming the telephone number for automatic dialling			
*923		max. 25-digit telephone No.	Programming the hotline number for automatic dialling (external including exchange identification code "0")
Programming the time for the call diversion			
*927		005 - 110 seconds	Daytime service changes call variation changes to call diversion after a pre-set time
Answering machine: programming engaged tone			
*928		XX	Engaged tone activated for user XX
*929		XX	Engaged tone deactivated for user XX
Activating the charge pulse			
*9300			Charge pulse OFF for all users
*9301			Charge pulse ON for all users
*9302		XX	Charge pulse OFF for user XX
*9303		XX	Charge pulse ON for user XX
*9305			Charge pulse 16 kHz
*9306			Charge pulse 12 kHz
Specifying the ringing rhythm			
*931	0 - 9 / 00 - 29		Program ringing rhythm 1 for telephone number (MSN/DDI)
*932	0 - 9 / 00 - 29		Program ringing rhythm 2 for telephone number (MSN/ DDI)
*933	0 - 9 / 00 - 29		Program ringing rhythm 3 for telephone number (MSN/ DDI)

Code No.	Index	Input	Explanation
Assigning the user to telephone number			
*934	0 - 9 / 0	XX	Assigning the user to telephone number
Programming the authorisation of the user to occupy a telephone number			
*935	0 - 9 / 0	11 12 13 ...	Users may occupy telephone number (MSN/Port at point to point connection)
Assignment of the user port to a telephone number			
*936	xx	yy	Port number xx assigned telephone number yy
Programming the inquiry (recall) function with a pulse dialling telephone			
*937		n (1...9)	Pulse dialling inquiry call with digit n
Timing-controlled switch-over in the type of calling			
*940			Deactivate timing control
*941			Activate timing control
*942		hhmm	Enter the time at which the night service is to be activated (hh = hours, mm = minutes)
*943		hhmm	Enter the time at which the night service is to be deactivated again (hh = hours, mm = minutes)
Entering the date and time			
*944	TTMMJJ	hhmm	Entering date and time
Display of the telephone number of the caller (CLIP)			
*945		XX	Telephone number display for user XX OFF
*946		XX	Telephone number display for user XX ON (B & O BeoCom 2500 before 1998)
*947		XX	Telephone number display for user XX ON
*948		XX	Internal telephone No. display for user XX OFF
Define terminal/user types			
*951		XX	Programming the terminal connections to: telephone
*952		XX	Combination unit
*953		XX	Answering machine (not possible with master set)
*954		XX	Fax (not possible with master set)
*955		XX	Modem (not possible with master set)
Programming the type of exchange line seizure			
*956		XX	Automatic exchange line seizure for user XX OFF
*957		XX	Automatic exchange line seizure for user XX ON

Code No.	Index	Input	Explanation
Programming the alarm port			
*958		XX	Alarm port as user port XX
Setting flash time			
*9590			Flash time 50 - 110ms
*9591			Flash time 50 - 350ms
*9592			Flash time 50 - 750ms
Programming the user authorisation level			
			User XX has...
*962		XX	no exchange authorisation (not possible with master set)
*963		XX	authorisation for incoming calls
*964		XX	authorisation to make local calls
*965		XX	authorisation to make domestic calls
*966		XX	unrestricted authorisation
Programming the call number memory			
*97	00 - 99	max. 25-digit telephone No.	Programming the call number memory 0-99, no "0" for exchange line seizure given
*98	00 - 99	max. 25-digit telephone No.	Programming the call number memory 100-199, no "0" for exchange line seizure given
Programming the local area numbers			
*99	00 - 19	max. 25-digit telephone No.	Programming the local area numbers
Programming the blocking of specific types of numbers			
*99	20 - 39	max. 25-digit telephone No.	Programming the blocking of specific types of number

Code No.	Index	Input	Explanation
Telephone number for updating the unit software			
*995		max. 25-digit telephone No.	Programming the telephone number for updating the unit software
Programming the country code			
*902		XX	Setting the country code (default when supplied: 00 for Germany)
Programming the type of charge information			
*903	0		Charge information as facility (factory default)
*903	1		Charge information as display information (e.g. Switzerland)
Programming the specific internal dialling tone			
*906	0		Normal internal dialling tone
*906	1		Specific internal dialling tone as permanent tone with interruptions
Programming the master authorisation			
*907	0		Only user 11 has master authorisation
*907	1		All users may have master authorisation
*908		XX	User XX has no master authorisation
*909		XX	User XX has master authorisation

6.4 Technical data

family 105 / 108 / 116	
Casing dimensions (width x height x depth)	280 x 215 x 75 mm
Weight:	approx. 1,5 kg
Ambient temperature:	5°C to 40°C (in operation); -25°C to 70°C (storage)
Mains connection:	230 VAC, $\pm 10\%$, 50 Hz
Power supply unit:	safety class II
Range of the internal analogue ports	> 2x 50 Ohm. This corresponds to approx. 800 m of cable between terminal devices and the telephone unit (wire diameter 0.6 mm)
Overvoltage (surge) protection:	basic protection (0,5kV; 1,2/50 μ s) on user lines, (> 1kV; 1,2/50 μ s) connected to network
External ISDN S ₀ connection:	Euro ISDN (DSS1) point to point or point to multipoint connection
Internal ISDN connection: (only family 115)	Euro-ISDN (DSS1) multipoint interface 40V $\pm 10\%$ (max. 120 mA) power supply
Dialling method of terminal devices:	pulse or multifrequency (DTMF)
Signal button:	Multifrequency: flash 50 - 110 ms (80ms nominal) Pulse: Earthing (grounding) function by dialling a programmed digit
Interface for the door intercom:	with additional adapter as per FTZ 123D12 (including signalling for two bell buttons)
Music-on-hold:	Internal: one melody or input from external source (max. 200 mV _{eff} ; R _i \leq 50 kOhm)
Contact load of the TS (door- phone) and TO (door-opening mechanism) relays:	24 V / 300 mA (in additional adapter)
Data retention after power failure:	unlimited (> 10 years)

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EEC CONFORMITY DECLARATION

GESKO accepts sole responsibility for declaring that the following products:

"family 105" ISDN telecommunication unit,
"family 108" ISDN telecommunication unit
and
"family 116" ISDN telecommunication unit

referred to in this declaration,
conform to the following standards:

TBR3 A1
EN 50 082-1
EN 55 022 class B
EN 60 950

The product is marked with the CE-sign.

G U A R A N T E E

Applicable in the Federal Republic of Germany.

The following conditions, which outline the essential requirements and scope of our guarantee do not affect the consumer's statutory rights resulting from the sales agreement between the dealer and the consumer. We provide a guarantee for this unit in accordance with the following conditions:

1. We will repair free of charge in accordance with the following conditions (Nos. 2 to 6) any damage or deficiencies to the equipment that is demonstrably the result of an error at the factory if you inform us immediately after ascertaining it and not more than 24 months after delivery to the end user. The guarantee does not cover easily breakable components such as glass or plastic parts, or light bulbs. Neither does the guarantee cover any minor deviations from the scheduled construction which have no significant influence on the value or functionality of the equipment, nor does it cover damage due to the chemical and electrochemical influence of water as well as general damage due to unusual environmental conditions.
2. Under this guarantee, we will repair defective components free of charge or replace them by components in perfect order, as we see fit. Repairs at the place where the equipment has been installed can only be requested in the case of major, stationary (fixed) units. Other units covered under the terms of this guarantee must be sent to our authorised workshop. The guarantee registration certificate (filled out) and purchase receipt must be returned with the equipment, together with details of purchase and/or delivery. Replaced components become our property.
3. The guarantee rights become invalid if repairs or made or equipment is interfered with by persons who are not authorised to do so, or when our equipment is fitted with adaptations or accessories that have not been co-ordinated with our equipment.
4. Within the first 24 months following delivery, we will meet the guarantee conditions without any charge for additional costs (travel expenses, the cost of travel-to-work time, freight and packaging charges).
5. Activated guarantees effect neither an extension of the guarantee period nor do they mean that a new guarantee period commences. The term of the guarantee for any replacement parts inserted will end with the term of the guarantee for the entire unit.
6. If the damage or deficiency cannot be eliminated, or the subsequent reconditioning/improvement is rejected or unreasonably delayed by us, either a replacement will be delivered free of charge (within 24 months of the date of purchase/delivery) at the wish of the end user, or the loss in value compensated or the unit will be taken back and the purchase price returned (though the amount shall not exceed the usual market price).

www.gesko.de



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