

Weatherproof VoIP phone

ResistTel IP4 / IP162



Operating instructions

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Hint

Before installing the device, this instructions must be read carefully.






The contents of the packaging must be checked for completeness.



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1 VoIP Phone ResistTel IP4/IP162

Congratulations on purchasing a ResistTel IP4/IP162 VoIP phone. This guide should help you to get to know the device better and to familiarize you with its handling.

1.1 Device description

The ResistTel IP4/IP162 with Voice over IP technology is a modern means of communication, which was developed for industrial use. Components, connections and fasteners are designed in such a way that they can withstand the harsh, industrial environment and function reliably even in harsh everyday working life.

Since it is an IP phone, all the functions described here are highly dependent on the configuration and support of the gateway used (PBX, PABX).

If you have any questions, please contact the manufacturer, your service partner or your IT department.

1.2 Scope of delivery

Packaging contents

The scope of delivery of the weatherproof IP phone includes, depending on the version:

- 1 telephone (handset with armoured or spiral cord)
- LAN socket for cable mounting
- Connecting cable RJ45 - RJ45
- ZB version without keyboard
- Operating instructions

Purchasable Accessories (optional):

- Relay Module
- Headphone set with connection cable and holder
- Cable gland
- Blind plugs

1.2.1 Sling holder

The holding force for the handset can be infinitely adjusted.

Loosen screws (12) and move the latches (13) (see Figure 1 on page 8). Pushing the latches together increases the holding force, pulling it apart reduces it. Tighten screws tightly again.

1.2.2 Compatibility of hearing aids

The handset is equipped with a stray field coil for coupling hearing aids. Wearers of a hearing aid with an inductive receiver can receive the signal from the hearing capsule directly.

1.3 CE mark

We hereby declare that this product is manufactured in accordance with the essential health and safety requirements

- EMC Directive 2014/30/EU
- Low Voltage Directive 2014/35/EU

is located.

The device is compliant with Directive 2011/65/EU and Delegated Directives 2017/2102/EU and (EU)2015/863.

The corresponding standards, technical rules and specifications can be found in the (optional) attached declaration of conformity and the declarations of conformity on our website.

2 Assembly and installation

2.1 Preparatory work

The device darf can only be mounted on a closed rear wall in a vertical usage position. Loosen the lid screws (2) (see Figure 1 to Figure 3) and remove the phone top (1). When using the optional accessory headset, screw the bracket by means of two screws on the back of the phone base (With the aforementioned accessories brackets with screws, as well as with each optional accessory a cable gland, are included).

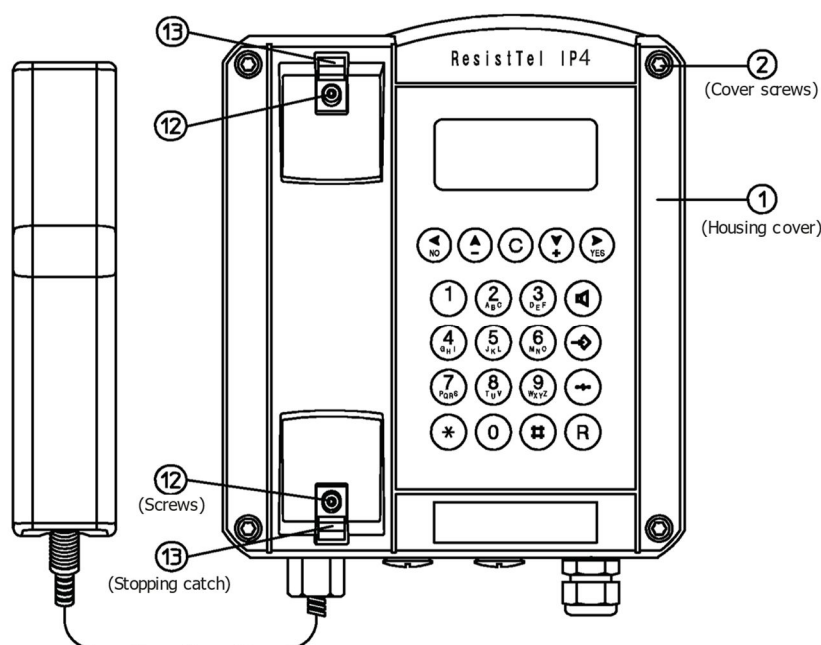


Figure 1 - Housing Top View and Position of Cable/Line Entries

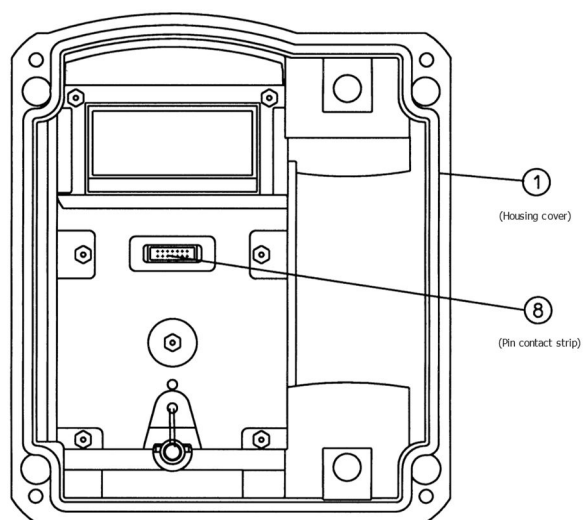


Figure 2 - Interior view of the upper part of the housing

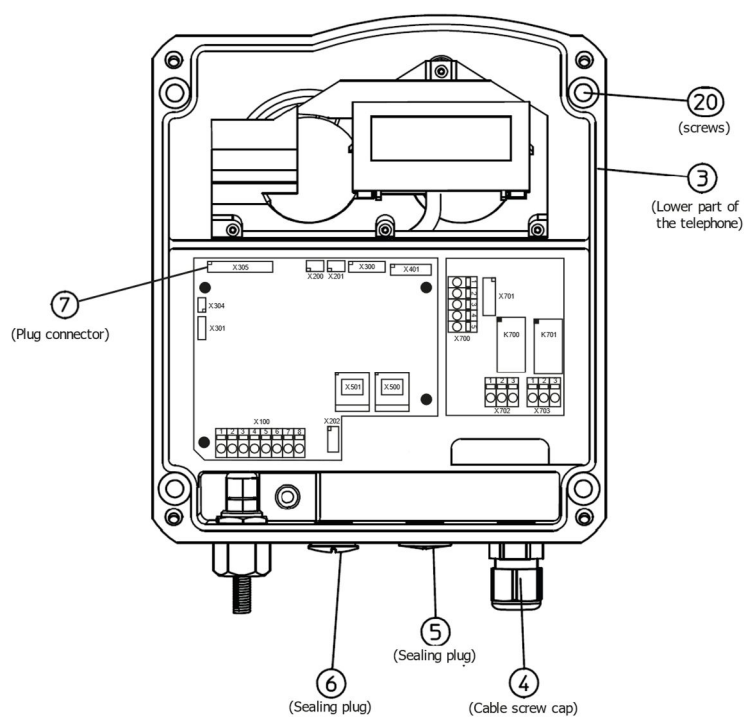


Figure 3 - Chassis Bottom Interior View

2.2 Montage

Insert four screws with a head diameter of 10 to 13 mm into the opening (20) and attach the telephone base (3) to the wall or on a plate.

In the case of a telephone with a factory-fitted plastic cable entry, the telephone line must be routed through the cable entry (KLE) (4). Inside the phone, the supplied LAN socket must be pressed onto the cable. Using the small LAN connection cable in the phone, the connection to the electronic module can be established via RJ45 socket X500 or X501 (see Figure 5 on page 11). The enclosed operating instructions for KLE must be observed.

Before assembly, the proper fit of the lid seal must be checked. Plug the ribbon cable from the electronic assembly with connector (7) into the upper part of the housing on the pin header (8). Put on the top of the telephone and attach it to the telephone base with the four cover screws (2).

In this phone, lines with dangerous voltages may be connected.

To prevent water from entering the housing, it is absolutely necessary that no seals are damaged during assembly. The ingress of water can cause touchable parts of the phone to cause dangerous voltages.

Installation and connection must be carried out by authorized personnel with knowledge of electrical connection technology and network technology.

If you want to operate a headset or use the output contact relay-onboard or need to operate the phone with an external DC power supply, replace the blind plugs of the cable/line entries with appropriate cable/line entries.

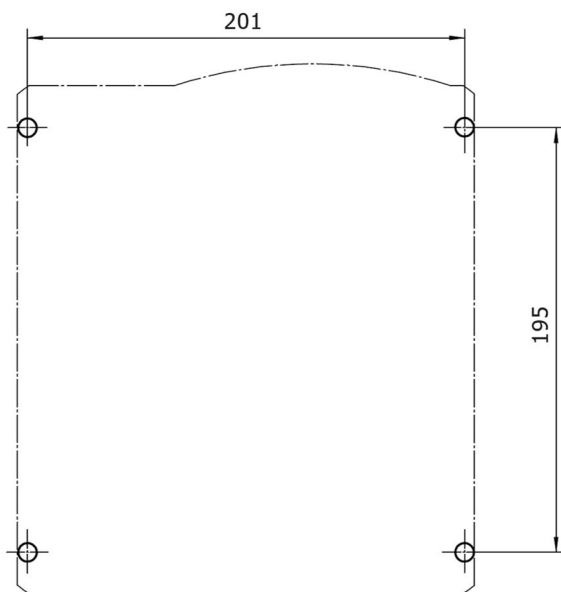


Figure 4 - Wall Mount Drilling Template

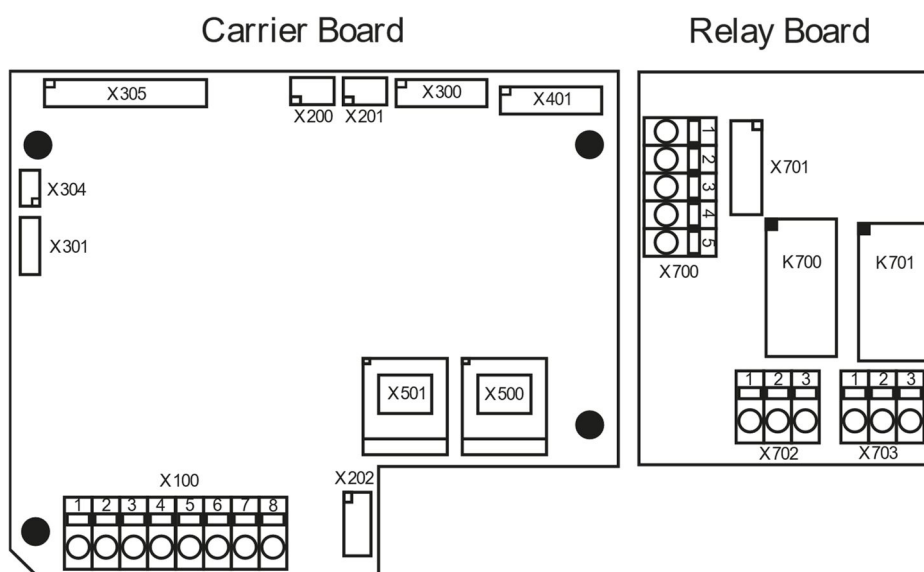


Figure 5 - Connection diagram of the electronic assemblies

Plug	No.:	Description (Carrier Module)
X100	1	Headset – Hearing capsule (ge)
	2	Headset – Hearing capsule (gr)
	3	Headset - Microphone (ws) - (+)
	4	Headset – Microphone (br) – (-)
	5	Output contact Relay-Onboard
	6	Output contact Relay-Onboard
	7	External power supply DCPower (+)
	8	External power supply DCPower (-)
X200		Speakers (left)
X201		Speaker (right)
X300		Display
X301		USB
X304		Reed Contact Us
X305		Keyboard
X401		Relay module (optional)
X500		LAN 2
X501		LAN 1 (PoE)

Table 1 - Connectors and Terminals of the ResistTel IP4/IP162 (Carrier Module)

Plug	No.:	Description (Relay Module)
X700	1	Ground connection
	2	Ground connection
	3	Entrance 3
	4	Entrance 2
	5	Entrance 1
X701		Relay Module
X702	1	Relay-1 Output Contact – (NO)
	2	Relay-1 Output Contact – (COM)
	3	Relay-1 Output Contact – (NC)
X703	1	Relay-2 Output Contact – (NO)
	2	Relay-2 Output Contact – (COM)
	3	Relay-2 Output Contact – (NC)

Table 2 - Connectors and terminals of the ResistTel IP4/IP162 (relay module)

2.3 Connections

2.3.1 Connection versions

2.3.1.1 LAN ports and RJ45 socket

The phone has 2 internal LAN connections, each with a cable gland (4) - (KLE). For connection, a LAN cable must be pulled through the gland (KLE). Inside the phone, the supplied LAN socket must be pressed onto the cable. By means of the small LAN connection cable located in the device, the connection to the electronic module can be made via RJ45 socket X500 or X501 (see Figure 5 on page 11).

The LAN feeder can have PoE (Power over Ethernet). Alternatively, the phone can be powered externally.

All unused cable feedthroughs must be fitted with blind plugs.



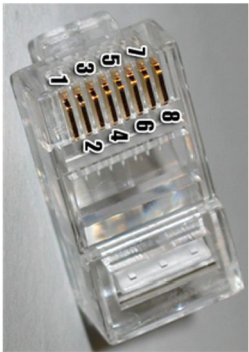






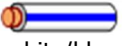
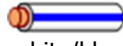


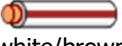



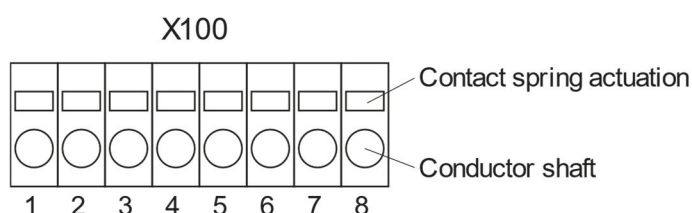
Pin/Wire	T568A Pair	T568B Pair	Signal ID	Vein	T568A Color	T568B Color	Pin assignment RJ45 connector
1	3	2	DA+	Earth	 white/green	 white/orange	
2	3	2	DA-	Minus	 green	 orange	
3	2	3	DB+	Earth	 white/orange	 white/green	
4	1	1	DC+	Minus	 blue	 blue	
5	1	1	DC	Earth	 white/blue	 white/blue	
6	2	3	DB-	Minus	 orange	 green	
7	4	4	DD+	Earth	 white/brown	 white/brown	
8	4	4	DD-	Minus	 brown	 brown	

Figure 6 - RJ45 Connector PinOut

2.3.1.2 Terminal blocks X100, X700, X702 & X703 connectors

The terminal blocks are terminal blocks in the connection compartment of the telephone and in push-in connection technology. Rigid connection wires or flexible connection wires equipped with wire end sleeves are only to be inserted into the conductor shaft of the terminals. The contact spring opens automatically and provides the necessary contact force against the conductor. To uninstall or install very small connecting wires, use a slotted screwdriver to open the contact spring.



Connection capacity:
 $0.2 \text{ mm}^2 \leq A_{\text{LtgStarr}} \leq 4.0 \text{ mm}^2$
 Stripping length:
 $l_{\text{Sol}} = 10 \text{ mm}$

2.3.1.3 Connection cables

For the connection of the external power supply DCPower, the relay outputs Relay-1 & Relay-2, the output contact Relay-Onboard and the inputs Input-1 – 3, sheathed cables are to be used, which are inserted into the device via the cable entries (KLE).



Attention!

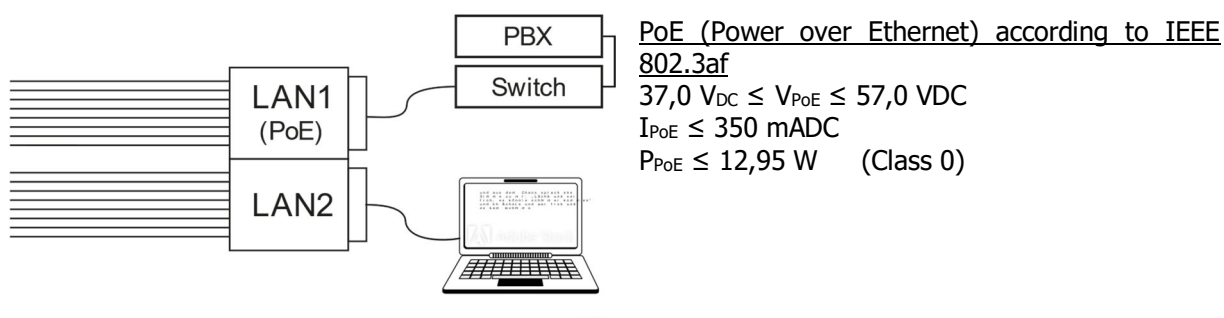
- The telephone housing must not be opened when the relay contacts are under voltage
- Cables and wires must be insulated.
- The circuits connected to the relay outputs must be of the same type; either both mains' circuits, both SELV or both TNV circuits.
- It is not allowed to connect different types of circuits to these relays.

2.3.2 LAN ports LAN1 and LAN2

The phone is equipped with two RJ45 sockets LAN1 and LAN2. For connection, a LAN cable must be pulled through the gland (KLE). Inside the phone, the supplied LAN socket must be pressed onto the cable. By means of the small LAN connection cable located in the device, the connection to the electronic module can be made via RJ45 socket X500 or X501 (see Figure 5 on page 11).

Connect the network connection line to the RJ45 socket LAN1, which processes a possible PoE (Power over Ethernet) feed in addition to the data traffic and uses the latter to power the phone.

RJ45 socket LAN2 is used for the optional connection of additional devices, such as a notebook. With the exception of data packets directed to the telephone, all other data packets are available on port LAN2; However, PoE is not supported.



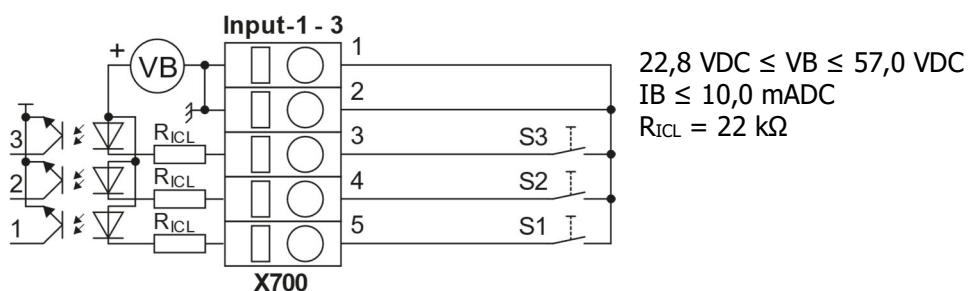
Attention!

- Only ES1 and PS1 classified power supplies according to EN 62368-1 may be used to power the phone.
- If you feed the phone via the PoE (Power over Ethernet) supply of your LAN1 connection line, the X100.7 and X100.8 connection terminals must not be used to connect an external power supply.

2.3.3 Inputs Input-1-Input-3

Up to three buttons must be connected to terminals 1 – 5 of the X700 terminal block located in the connection compartment, which is connected to the Input-1 – Input-3 inputs of the telephone. As shown below, the buttons between one of the inputs Input-1 [5], Input-2 [4] or Input-3 [2] and the ground connection [1] or [2] Join. Here, voltage VB drives a current limited by R_{ICL} through the operated

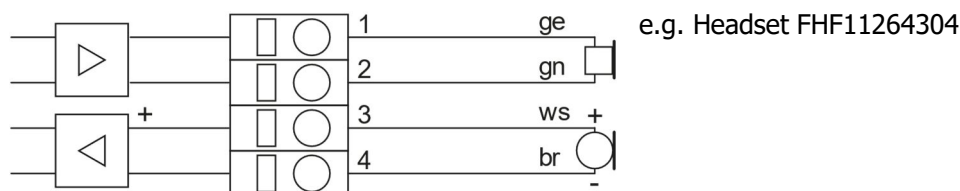
button. The transmitting diode of the opto-coupler, which is connected in series, then transmits the switching state of the button galvanically isolated into the electronics.



2.3.4 Headset Connection

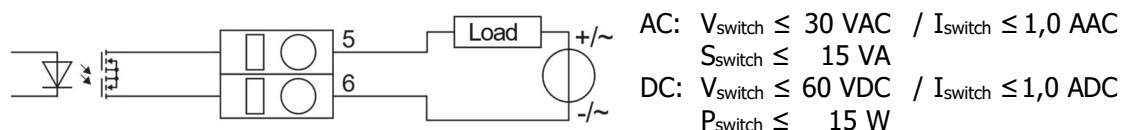
The headset must be connected to terminals 1-4 of the X100 terminal block located in the connection chamber. Pay attention to the correct polarity of the microphone, whose positive connection is to be connected to terminal 3.

The colors indicated are the wire colors of the connection cable of our headset FHF11264304; the ends of the unused wires (grey and pink) of this connecting line shall be insulated with a piece of insulating tape or, if necessary, cut off.



2.3.5 Output contact relay-onboard

Equipment to be switched on/off must be connected to terminals 5 and 6 of the X100 terminal block located in the connection chamber. The normally open of the Photo Relay Onboard can switch DC and AC loads in the specified load range.



Attention!

- The permissible load currents of the output contacts are voltage-dependent. Calculate their maximum values as indicated below by forming the quotient of switching power P_{switch} and switching voltage V_{switch} . In addition, the result must not exceed the specified maximum value of the switching current I_{switch} .

$$\text{AC: } I_{LoadMax} = S_{switch} / V_{switch} = 15\text{VA} / 24 \text{ V} = 0.626 \text{ A}$$

$$I_{LoadMax} \leq I_{switchMax}!$$

$$\text{DC: } I_{LoadMax} = P_{switch} / V_{switch} = 15\text{W} / 48 \text{ V} = 0.312 \text{ A}$$

$$I_{LoadMax} \leq I_{switchMax}!$$

2.3.6 External power supply DCPower

The external DC power supply shall be connected to terminals 7 and 8 of the X100 terminal block located in the connection chamber.

Be sure to use sufficient conductor cross-sections so that the minimum required DC voltage is always available at the terminals. For more information, please refer to the technical data of this operating manual.

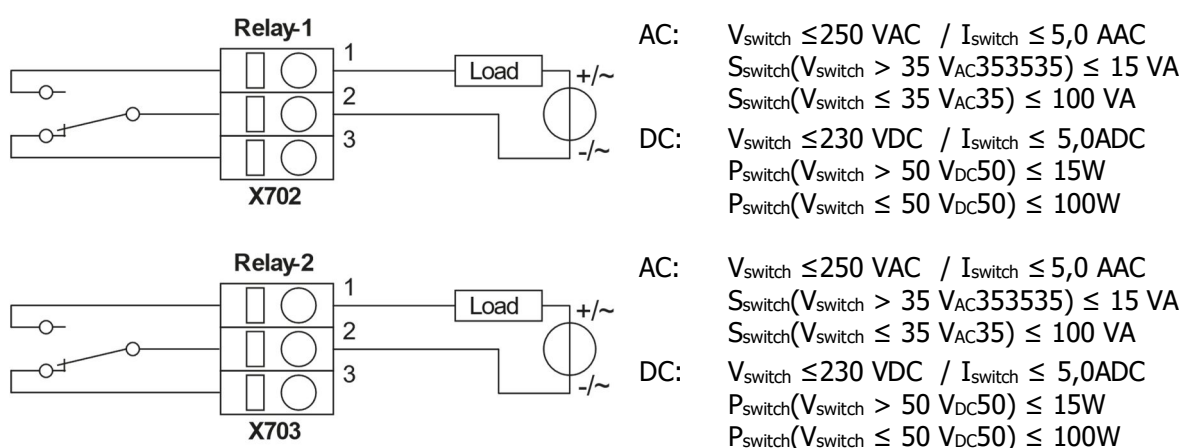


Attention!

- Only ES1 and PS1 classified power supplies according to EN 62368-1 may be used to power the phone.
- If you feed the phone via the X100.7 and X100.8 ports, your LAN1 connection line must not have a PoE (Power over Ethernet) supply.

2.3.7 Output contacts Relay-1 and Relay-2

Equipment to be switched on/off must be connected to terminals 1 - 3 of the X702 & X703 terminal blocks located in the connection chamber, which are connected to the relay-1 and Relay-2 electro-mechanical relays. The changers of both relays can switch DC and AC loads in the specified load range.



Attention!

- The permissible load currents of the output contacts are voltage-dependent. Calculate their maximum values as indicated below by forming the quotient of switching voltage-dependent switching power $P_{\text{switch}}(V_{\text{switch}})$ and switching voltage V_{switch} . In addition, the result must not exceed the specified maximum value of the switching current I_{switch} .

AC: $I_{\text{LoadMax}} = S_{\text{switch}}(V_{\text{switch}}) / V_{\text{switch}} = 15 \text{ VA} / 48 \text{ V} = 0.312 \text{ A}$ $I_{\text{LoadMax}} \leq I_{\text{switchMax}}!$
DC: $I_{\text{LoadMax}} = P_{\text{switch}}(V_{\text{switch}}) / V_{\text{switch}} = 100 \text{ W} / 48 \text{ V} = 2.08 \text{ A}$ $I_{\text{LoadMax}} \leq I_{\text{switchMax}}!$
- The circuits of the switching contacts of both relays must not be connected to different external conductors of an AC network.

Final work

Please carry out a final check of the fasteners and connections to ensure proper commissioning and safety.

Connect the keyboard in the top of the phone (1) via the strip (8) to the connector inside the case (7) on the circuit board (X305). Then fix the phone top with the 4 lid screws (2).

3 Commissioning

The phone includes numerous setting options to adapt the operation of the device to the different requirements. For this purpose, the main device menu and/or the web interface of the phone are available to configure the device to meet your requirements. In this section of the user manual, we will guide you on how to set the configurable functions of the phone.

3.1 User Interfaces

The user interfaces described here refer to the input options on the device itself. A more convenient and comprehensive way of configuration is provided by the phone's web server. The web interface can be accessed via the IP address of the phone with a web browser. (see 3.1.2) Attention: The computer must be on the same subnet.

Default setting:

Username: admin

Password: ip162

3.1.1 Phone display and keyboard

The figure below shows the display content in sleep mode of the phone, as well as the keyboard and its functional grouping. The "Button Secondary Functions" column of the figure lists the spellings used in the user manual for the alternative secondary functions of different buttons. If the lettering $\geq T_L$ is located below the key symbol, the said key must be held down at least $T_L = 0,5s$ to trigger the second function. The key pairs of the list describe shift key sequences, which are to be pressed one after the other. It should be noted that the effect of the introductory shift key press is limited in time and ends after $T_{SHIFT_TO} = 5,0s$ - or by any subsequent keystroke.

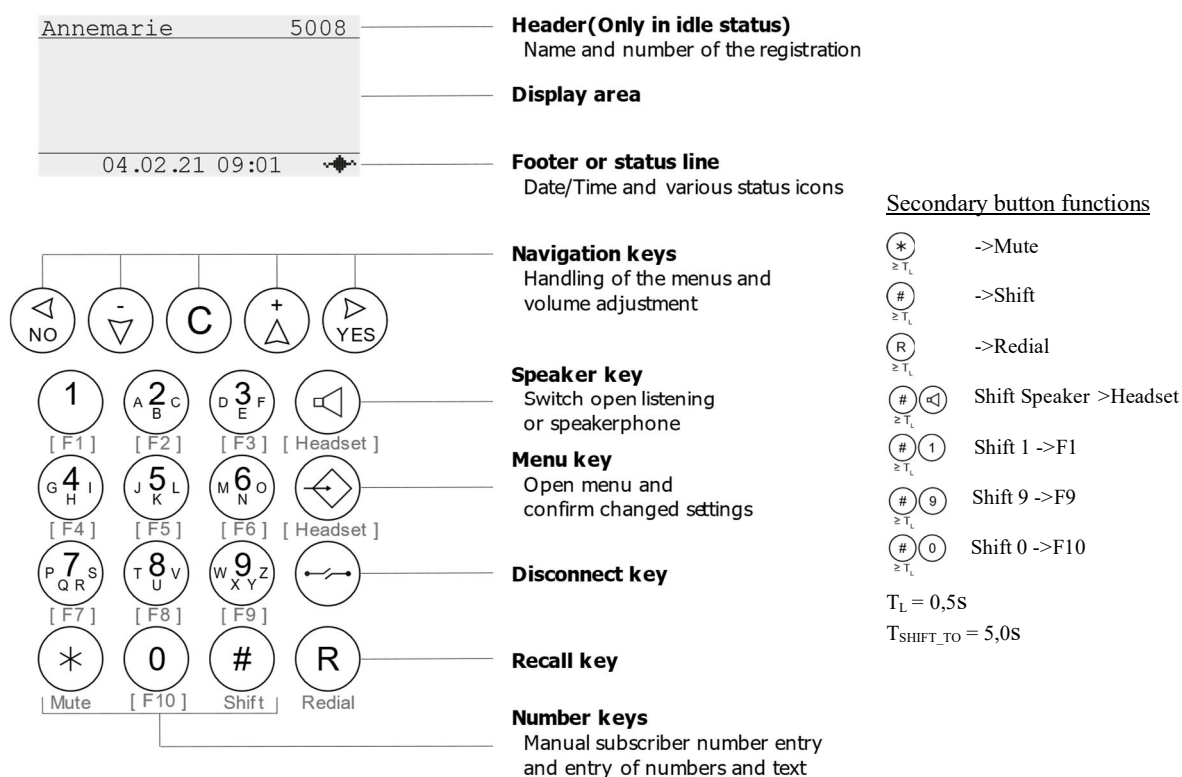






Figure 7 - Display and Keyboard




In the following sections we explain the navigation in menus, that setting configuration parameters and saving changed settings. For the sake of overview, the key descriptions are limited to the respective

section. Although effective in each section, key  only described in the last section [3.1.1.4 Save or discard changed settings](#).









In the setting notes of this commissioning chapter, we refer to configuration parameters to be set only with specification of the path `Main menu\Phone settings\Headset` and the values to be set `On` or `Off`. We consider the concrete navigation, setting and storage of the parameters to be sufficiently clarified.

3.1.1.1 Navigation in menus





Menus allow access to the various configuration parameters and status information of the phone. They present themselves as a list of named elements in which an element, the selected element, is displayed inversely. The footer of the display displays nesting depth, menu name, and resume icons. For lists that cannot be displayed completely in the display area, the latter indicate whether  further elements continue the list at the  bottom, top  or at both ends.

Element names followed by a colon denote configuration parameters; all others denote the submenus or action switches of the same name. The following figure shows the navigation to the configuration parameter `Headset` `Main menu\Phone settings\Headset`: Keystroke  opens the main menu, in which the selection mark is then moved to  the `Phone settings` element by pressing the button four times. Finally, pressing a button  opens the submenu of the same name, in which parameter `Headset` is selected.





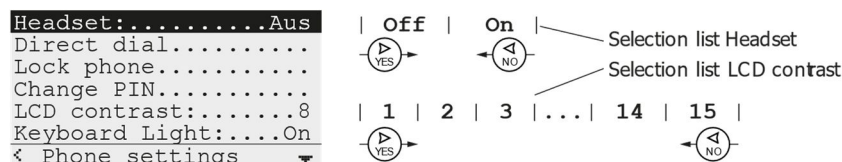
-  Indicates the connection status to the gatekeeper
-  Indicates the continuation of the list at the last item displayed.
 -  Continued above the first element
 -  Continued above the first element and below the last element
-  Identifies submenu nesting depth 1 of the displayed submenu
 -  Nesting depth 2
 -  Nesting depth 3
 -  Nesting depth 4

-----Navigate-----



- 1)  Closes the current menu and returns to parent menu level or hibernation.
 - 2)  Moves the selection marker down one position to the next element. If the last element is selected, the selection mark moves to the first element.
 - 2)  Moves the selection marker up one position to the previous element. If the first element is selected, the selection mark moves to the last element.
 - 1)  Opens the selected submenu or executes the selected action.
- 1) The functionality of the horizontal navigation keys changes if configuration parameters are selected.
 - 2) Selections of setting parameters are indicated by a blinking cursor, the inverse representation is omitted.

3.1.1.2 Setting Selection Parameters




Selection elements are configuration parameters for which a 1 from N selection must be made. Behind the left-aligned parameter name and its trailing colon, the currently selected setting value is displayed right-aligned. The N named setting values form a list that can be inspected in the selected configuration parameter by the keys  and/or  in both directions to find the desired setting.

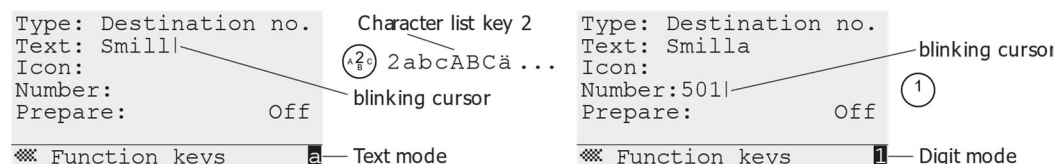


-----Make a selection-----





-  Select the next value from the drop-down list.
-  Select the previous value from the drop-down list.

3.1.1.3 Setting Input Parameters






Input elements are configuration parameters in which a numeric or textual value must be entered. After the left-aligned parameter name and its trailing colon, the input field is connected, which is marked by a blinking cursor | when it is selected. In the lower, right corner of the display, a small, inverse box indicates whether the input is in digit mode **1** or in text mode **a** | **A**. In text mode, each number key is assigned a character list, the individual characters of which are inserted one after the other into the current insertion position when you press the key in quick succession. Wait until the cursor changes from the left to the right side of the last character used "|c" > "c|" to finally adopt the character. The mode switches to number mode when your character selection ends on a number sign or you press one of the keys  or . To switch to text mode, hold a number key, e.g. the key , pressed down until the first character "a" of the associated character list is output.

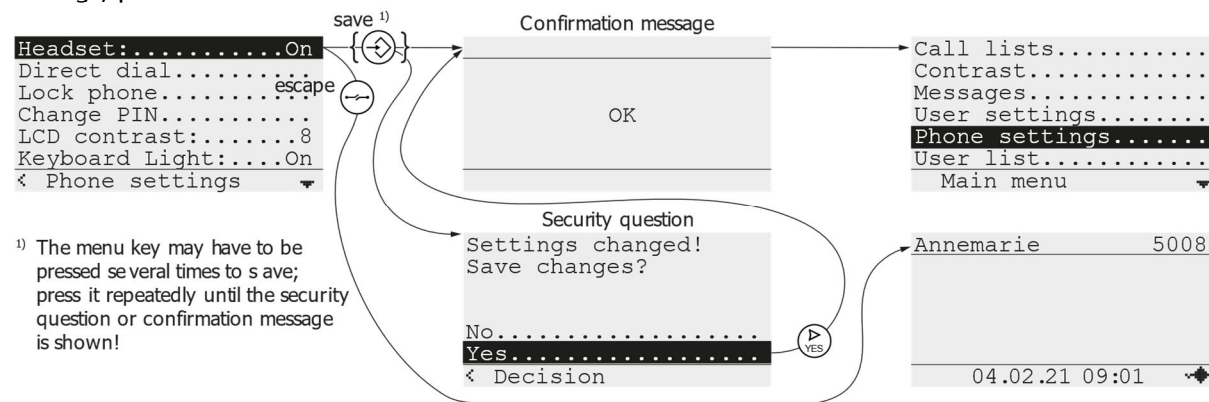


-----Make entries-----

-  Input of numeric and text characters.
-  Move the cursor one character to the left.
-  Move the cursor one character to the right.
-  Delete characters before the cursor.

3.1.1.4 Save or discard changed settings

After you change settings, the changes must be saved explicitly. To do this, press the menu button  until the saving is confirmed or a security prompt appears, which you can answer in the affirmative  or deny by pressing the button sequence  . If, on the other hand, you want to discard your changed settings, press the disconnect button  instead of the Menu button.



3.1.2 Web Interface

The following figure shows the web interface of the phone, which can be accessed from all common web browsers by entering the IP address of the phone (e.g. 192.168.101.20) in the address field of the browser. The IP address itself can be found in the Main menu\Administration\Information menu of the phone. The open interface then presents itself as a menu of adjustable tab cards, which are optionally divided into different subject areas. The WebIp162\Phone\User-1\General\ tab shown expects username and password authentication, whose factory-set values are specified in the figure.

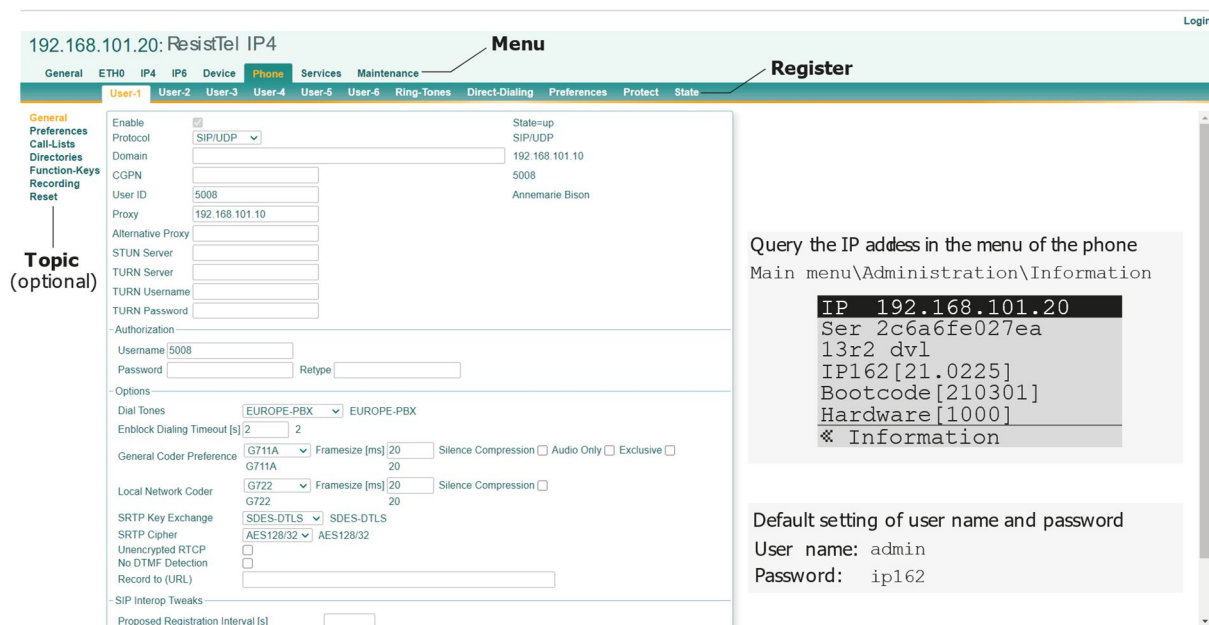








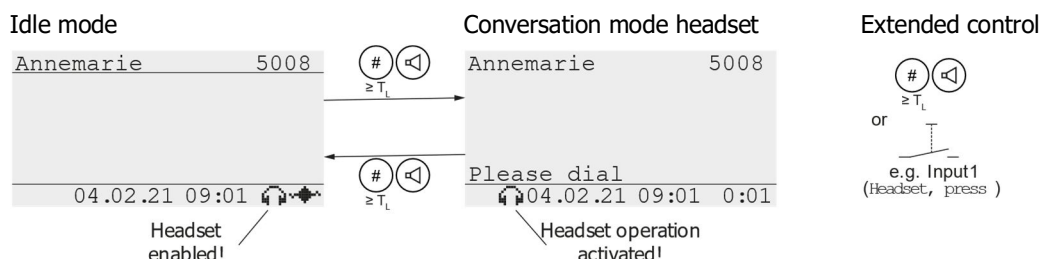
Figure 8 Web Interface ResistTel IP4/IP162

3.2 Set menu language

The English menu language is set at the factory and can be changed to your preferred language via the Main menu\User list\n User name\Preferences\Language: selection item. Navigate to the specified selection item in the menu and use the horizontal arrow keys  |  to select the language to be used, e.g. German. Finally, press the Menu button until the Save changes? security prompt appears, which you can answer in the affirmative at the touch of a button  or deny it with a key sequence  .

3.3 Headset Control

By default, the connected headset is controlled by the Shift Speaker button sequence, which activates and disables the headset conversation mode, as shown in the figure below. However, the prerequisite for this is that the headset operation in the main menu is switched on or released, which is indicated by the display of the pictogram  in the lower display line, to the right of the date/time display.





The release control of the headset operation is carried out via the selection element `Main menu\Phone settings\Headset:` in the main menu, which can be switched on or off there and set to "On" to release the headset operation.

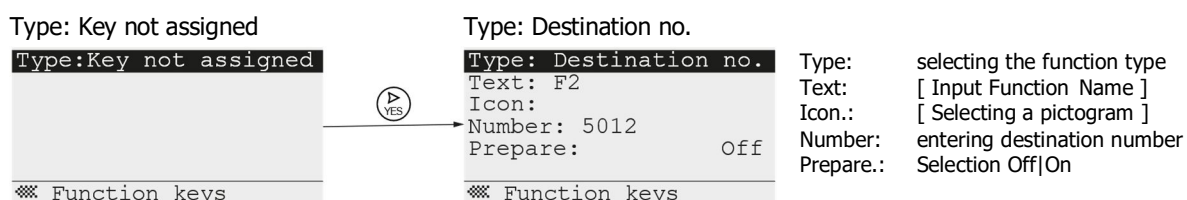
In addition to the key sequence Shift Speaker, one of the inputs Input1 – Input3 can be used to extend the headset control so that the pressed button, which is connected to the selected input, causes the activation/deactivation of the headset operation. To do this, select one of the DropDown lists Input1 – Input3 in the web interface `WebIp162\Device\Keypad` and select the working method "Headset, press" to use the input for the extended headset control.

3.4 Headset Audio Features


Tab `WebIp162\Device\Audio\` of the web interface contains the drop-down list `Headset Type` and two CheckBoxes `Headset Ringing` & `Headset Ringing only`, which are used to set the audio properties of the headset operation. In the drop-down list, select the type of connected headset that is factory set to `Intradex/Ecom Instruments`. The ringing signal can be directed to the headset via the two CheckBoxes switched off in the factory settings. For an employee working in a noisy environment who uses the headset as hearing protection, an upcoming call is reliably recognizable in this way. CheckBox `Headset Ringing` if you want the sound call signal (ringing) to be played back through the phone's headset and speakers; use `Headset Ringing only` if you want to play exclusively through the headset.




3.5 Function keys Shift 0-Shift 9

The keys  -  from the numeric keypad can trigger configurable functions in conjunction with the shift key, such as for example the dialing of a destination number. In the factory settings, the assigned function keys 1 – 10 are preset to "Key not assigned" and thus without effect. Via the main menu `Main menu\User list\ n UserName \Function key\ f FctKeyNo \` open the Function key dialog shown below, in whose various fields the desired behavior of the function key must be set.



The following table shows the current status of a configuration in which all 10 digit keys are to be assigned the choice of a destination number. The configuration for the keys 0 and 1 has already been done, the other digit keys are still pending.

Phy button	f-FctKeyNo	Type:	Text:	Icon:	Number:	Prepare:
	10	Destination no.	F0	-	5010	Off

	1	Destination no.	F1	-	5011	Off
	2	Key not assigned	-	-	-	-
...						
	9	Key not assigned	-	-	-	-

3.6 Relay-Onboard, Relay-1 and Relay-2 outputs

The control of the relay-onboard, relay-1 and relay-2 outputs is configurable to signal selected states of the phone via connected external equipment, such as for example the ringing of the telephone via an optical signaling device. In the factory setting, all three outputs are preset to "Alert on" and are thus switched on when the phone signals (rings) an upcoming call. In the web interface `WepIp162\Device\Relays\Relay-XYZ`, select the tab for the relay and select the *Working Mode* drop-down list to define the desired control for the relay in question. Depending on the selected control, the exact working method can be specified by means of further dialog elements.

3.7 Inputs Input1-Input3

Configurable functions can be triggered via the Input1 – Input3 inputs, such as for example the dialling of a destination number or the control of the headset conversation mode. In the factory setting, all three inputs are preset to "disabled" and thus without effect. In the `WebIp162\Device\Keypad` web interface, select the Input1 – Input3 drop-down lists to define the desired mode of operation of the respective input. Select "Headset, press" to use the input to control the headset conversation mode or one of the "Function key, xxx" modes to recreate function keys with the input. In the latter case, the function key dialogs must be edited in the main menu `Main menu\User list\n Username\Function key\f FctKeyNo\` in order to set the desired behavior of those function keys, which you have selected in the web interface for the input (see also 3.5 *Function keys Shift 0-Shift 9* on page 21).

The table below shows the results of a configuration in which all three inputs trigger the dialling of a destination number when a connected key is pressed.

Input	f-FctKeyNo	Type:	Text:	Icon:	Number:	Prepare:
Input1	11	Destination no.	F11	-	5111	Off
	12	Key not assigned	-	-	-	-
Input2	13	Destination no.	F13	-	5113	Off
	14	Key not assigned	-	-	-	-
Input3	15	Destination no.	F15	-	5115	Off
	16	Key not assigned	-	-	-	-

3.8 Test of dialling method "immediate dialling"

In the operation of the telephone, two manual dialling methods of immediate dialling and dialling preparation are used, the former being not supported by all PBXs. If your PBX does not support the instant dial dialling procedure, in which every digit entered is immediately transferred to the PBX, a remedy can be found in the web interface. So first test whether there is a need for action. To do this, pick up the handset and enter a multi-digit phone number. If the dial fails after entering the first digit with an error message "unknown number", the configuration parameter *Enbloc Dialing Timeout [s]* of the register card `WebIp162\Phone\User-1\General\` must be set from the factory-set value 0 to e.g., 2. The set timeout of 2 s causes the phone to wait 2 s after each digit input whether further digits follow. Not until 2 s after the last entered digit, the collected digits are then transferred to the PBX.

4 Operation

4.1 Operation, conversation modes

Below are the conversation modes available to you to make your phone calls. In order to set and change the selected operating mode, the handset and buttons must be operated as shown in Figure 9. The arrows symbolize the respective changes between the operating modes represented as ellipses, which the phone performs when you carry out the action specified in the arrow. Below the operating mode designation, the lower left section of the display is shown, in which the phone displays the set operating mode as specified.

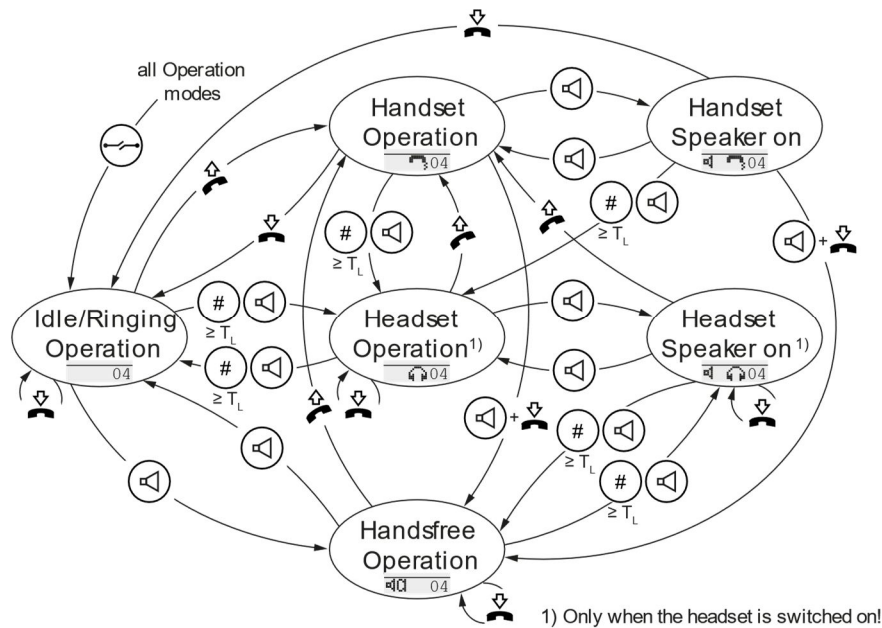


Figure 9 - Conversation Modes

Action icons:

- Pick up the handset
- Hang up the handset
- Key sequence headset control to turn headset modes on/off.
Hold down the hash key (#) for at least T_L, then release and then press the speaker key (🔊).
- Speaker key (🔊) to turn hands-free and open listening modes on/off.
- Sequence of actions for switching from the handset operating modes to hands-free mode.
Press the speaker key (🔊), hang up the handset (📞) when the speaker key is pressed down, and then release the speaker key (🔊).
- Disconnect key to force a switch to the idle mode.

4.1.1 Conversation mode handset

The conversation shall be conducted via the microphone and hearing capsule of the picked up handset; the speaker is turned off.

4.1.2 Conversation mode open listening

The conversation shall be conducted via the microphone and hearing capsule of the picked up handset. People present can listen to the conversation via the turned on loudspeaker.

4.1.3 Conversation mode headset

The conversation shall be conducted via the microphone and hearing capsule of the headset; the speaker is turned off.

4.1.4 Conversation mode headset open listening


The conversation shall be conducted via the microphone and hearing capsule of the headset. People present can listen to the conversation via the turned on loudspeaker.

4.1.5 Conversation mode hands-free


The conversation will be conducted via the hands-free microphone below the keyboard and the turned on speaker. All persons present can participate in the conversation.

4.1.6 Change of operating mode, textual description




4.1.6.1 Handset mode -> handset mode with open listening

To switch from handset mode to handset mode with open listening, press the speaker button  during a conversation.



4.1.6.2 Handset mode with open listening -> handset mode

To switch from handset mode with open listening to handset mode, press the speaker button  during a conversation.


4.1.6.3 Handset mode (w/wo open listening) -> hands-free mode

To switch from handset mode (with or without monitoring) to hands-free mode, press the loudspeaker key  during a conversation, hang up the handset  while holding down the loudspeaker key and then release the loudspeaker key .



4.1.6.4 Handset mode (w/wo open listening) -> headset mode

To switch from handset mode (with or without open listening) to headset mode, press the hash key  for at least 0,5s during a conversation, then release the hash key and press the loudspeaker key . The handset can then be hung up.


4.1.6.5 Hands-free mode -> handset mode

To switch from hands-free mode to handset mode, pick up the handset .


4.1.6.6 Hands-free mode -> headset mode

To switch from handsfree-mode to headset mode mode, press the hash key  for at least 0,5 s during a conversation, then release the hash key and press the loudspeaker key .


4.1.6.7 Headset mode -> headset mode with open listening

To switch from headset mode to headset mode with open listening, press the loudspeaker key  during a conversation.



4.1.6.8 Headset mode with open listening -> headset mode

To switch from headset mode with open listening to headset mode, press the loudspeaker key  during a conversation.

4.1.6.9 Headset mode (w/wo open listening) -> handset mode

To switch from headset mode (with or without open listening) to handset mode, pick up the handset .

4.2 Operation, adjusting volumes

During signaling an incoming call (ringing) and during the call in one of the conversation modes, you can decrease the respective volume of the mode by pressing the key  or increase it by pressing the key . A "Vol" slider is shown in the display, which represents the set volume value. The fade-in of the slider ends automatically a few seconds after the last operation of one of the two keys. The set volume value is saved permanently and reused for the next ringing tone/conversation.

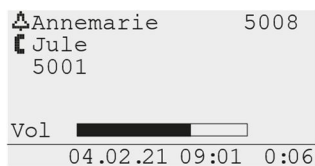
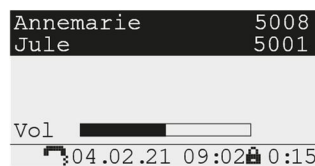



Figure 10 - Change Sound Call

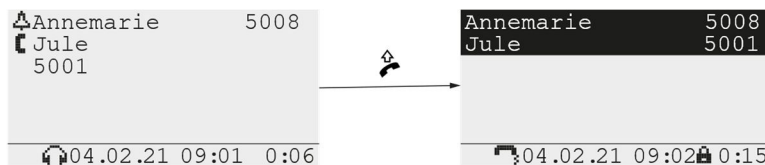


VolumeChange Listener Volume





4.3 Operation, telephoning

4.3.1 Answer or reject a call







The phone signals a call. Pick up the handset to answer the call in the handset mode or press the disconnect key  to reject the call.





----- Signal call (ringing) -----


-  Decrease ringer volume
-  Increase ringer volume
-  Reject call; the phone goes back to idle and the caller gets the busy signal.
-  Accept a call; the phone connects you to the caller and switches to handset conversation mode.

----- Conversation -----

-  Decrease conversation volume
-  Increase conversation volume
-  Turn microphone mute on/off. The mute switched on is indicated in the display at the bottom left by the flashing microphone icon .
-  Perform consultation call. Hold the connection to your current call partner A and call a call partner B to talk to him without the call partner A being able to overhear. When the query is initiated , conversation partner A is on hold, the telephone asks you to enter the subscriber number for conversation partner B and establishes the connection to him after the entry has been made.

☞ 4.3.3.1 Consultation/Toggle calls/Conference Page 28

-  Perform mediation. Connect your current conversation partner A with a conversation partner B and you end the call yourself. When initiating the transfer , the telephone asks you to enter

the subscriber number for call partner B and establishes the connection to him after you confirm the entry by pressing the right arrow key .

⚠ Xyz During your call with partner A, another caller reaches you. Acoustically signaled as a call waiting tone and displayed as a waiting call, you have the following options for dealing with the waiting caller.

- (R) (0) They reject the caller, who then hears the busy signal.
- (R) (A) (2) (0) You switch to the caller and put caller A on hold, who cannot overhear your conversation with the caller (caller B). The further procedure corresponds to that of the query, whereby the dialling is omitted.

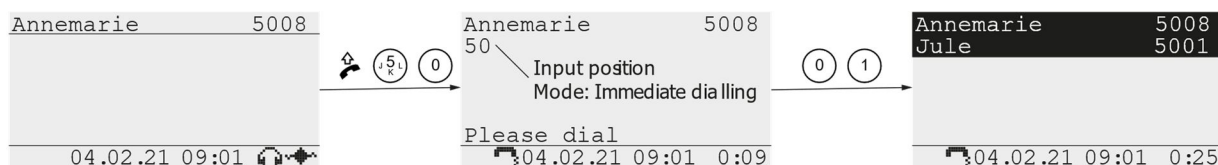
☞ 4.3.3.1 Consultation/Toggle calls/Conference

Page 28

4.3.2 Call someone

4.3.2.1 Call with the handset lifted off

Pick up the phone and dial the number of the subscriber to be called.






----- Dialling -----






Enter the subscriber number manually using the keys of the numeric block. The dialling is made keeping up with your entries.

(R)

or call back. The list of incoming calls opens, from which you can use the  and  keys to select the caller you want to call or call back. Finally, press the right arrow key  to start the dialling process.



(R)
≥ T_L

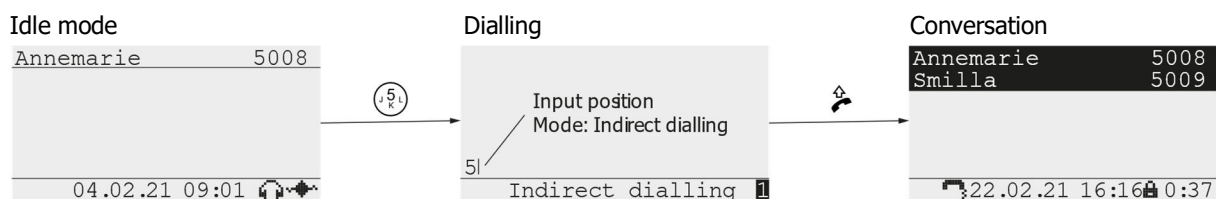
or redial. The list of outgoing calls opens, from which you can use the  and  keys to select the caller you want to call again. Finally, press the right arrow key  to start the dialling process.

----- Conversation -----

☞ 4.3.2.2 Call with the handset hang up (dialling preparation) Page 26

4.3.2.2 Call with the handset hang up (dialling preparation)



With this type of call, the telephone is idle. Enter the subscriber number with the handset on-hook. In addition to entering numbers, text and special characters can also be entered. To start the dialling process, switch to the desired conversation mode (e.g. handset mode ) or press the right arrow key .



Indicates that headset operation is turned on in the menu
Indicates the connection status to the gatekeeper
Indicates the numeric mode of manual input (dialling preparation)
Indicates the handset operation

----- Dialling -----







Manual dialling. Enter the subscriber number using the keypad keys. In this operating mode you can enter digits and text characters and correct the entry if necessary. Finally, switch to the desired conversation mode (e.g. handset mode ) or press the right arrow key  to start the dialing process.

☞ 4.3.4.1.2 Manual input in dial preparation mode Page 29





☞ 4.3.4.2 Use contacts (telephone book) Page 30

☞ 4.3.4.3 Use the dial preparation context menu Page 31



or callback. The list of incoming calls opens, from which you can use the  and  keys to select the caller you want to call or call back. Finally, switch to the desired conversation mode (e.g. handset mode ) or press the right arrow key  to start the dialing process.



or redial. The list of outgoing calls opens, from which you can use the  and  keys to select the caller you want to call again. Finally, switch to the desired conversation mode (e.g. handset mode ) or press the right arrow keys  to start the dialing process.

----- Conversation -----



Decrease conversation volume




Increase conversation volume





Turn microphone mute on/off. The mute switched on is indicated in the display at the bottom left by the flashing microphone icon .



Perform consultation call. Hold the connection to your current call partner A and call a call partner B to talk to him without the call partner A being able to overhear. When the query is initiated , conversation partner A is on hold, the telephone asks you to enter the subscriber number for conversation partner B and establishes the connection to him after the entry has been made.

☞ 4.3.3.1 Consultation/Toggle calls/Conference Page 28



Perform mediation. Connect your current conversation partner A with a conversation partner B and you end the call yourself. When initiating the transfer , the telephone asks you to enter the subscriber number for call partner B and establishes the connection to him after you confirm the entry by pressing the right arrow key .



During your call with partner A, another caller reaches you. Acoustically signaled as a call waiting tone and displayed as a waiting call, you have the following options for dealing with the waiting caller.



They reject the caller, who then hears the busy signal.



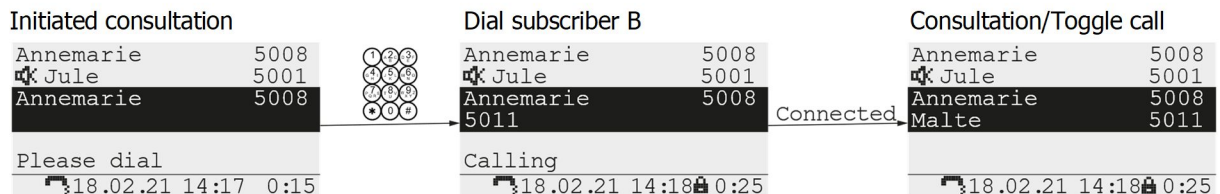
You switch to the caller and put caller A on hold, who cannot overhear your conversation with the caller (caller B). The further procedure corresponds to that of the query, whereby the dialling is omitted.

☞ 4.3.3.1 Consultation/Toggle calls/Conference Page 28

4.3.3 Operate multiple connections

4.3.3.1 Consultation/Toggle calls/Conference

When the query is initiated by pressing the key \textcircled{R} , call partner A is put on hold and the telephone asks you to enter the subscriber number for your call partner B. Once the entry has been made, the telephone establishes the connection to caller B.



- Marks the connection on hold
- Indicates handset operation
- Indicates an encrypted audio transmission

----- Dialling -----

Enter the subscriber number manually using the keypad keys.

\textcircled{R} **or** callback. The list of incoming calls opens, from which you can use the $\textcircled{\nabla}$ and $\textcircled{\Delta}$ keys to select the caller you want to call or call back. Finally, switch to the desired conversation mode (e.g. handset mode $\textcircled{\text{H}}$) or press the right arrow key $\textcircled{\rightarrow}$ to start the dialing process.

$\textcircled{R} \geq \text{T}_L$ **or** redial. The list of outgoing calls opens, from which you can use the $\textcircled{\nabla}$ and $\textcircled{\Delta}$ keys to select the caller you want to call again. Finally, switch to the desired conversation mode (e.g. handset mode $\textcircled{\text{H}}$) or press the right arrow keys $\textcircled{\rightarrow}$ to start the dialing process.

---- Consultation/Toggle call ----

$\textcircled{\leftarrow}$ You end the active connection to call partner B (A) and return to the call on hold with call partner A (B)..... Call Conversation

$\textcircled{R} \textcircled{\text{A} \textcircled{\text{B}}}$ You toggle (brokerage) the conversation partner; the connection to the active call partner B (A) is put on hold and the previously held connection to call partner A (B) becomes active.

$\textcircled{R} \textcircled{\text{0} \textcircled{\text{3} \textcircled{\text{E}}}}$ You and your two conversation partners A and B are connected to a conference in which everyone can talk to each other.Conference

$\textcircled{R} \textcircled{\text{6} \textcircled{\text{4} \textcircled{\text{H}}}}$ You connect your two conversation partners A and B with each other and you end the call yourself.

-----Conference -----



$\textcircled{\leftarrow}$ You end the conference, disconnect the last active connection to conversation partner B (A) and return to the connection on hold to conversation partner A (B)..... Call Conversation

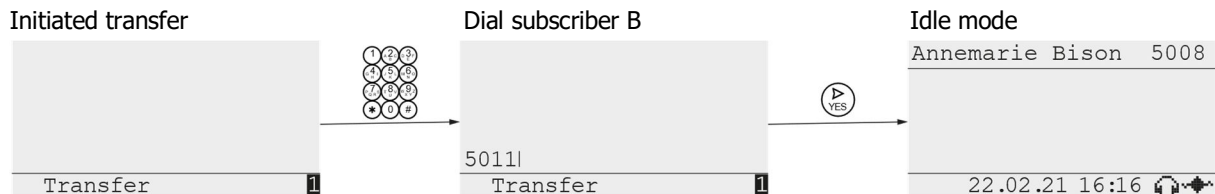
$\textcircled{R} \textcircled{\text{A} \textcircled{\text{B}}}$ You end the conference and return to the two links with the active/hold association toggled. Partner B (A) is put on hold and the connection to partner A (B) remains active.Consultation/Toggle call




$\textcircled{R} \textcircled{\text{0} \textcircled{\text{3} \textcircled{\text{E}}}}$ You end the conference and return to the two original connections. The connection to partner B (A) remains active and the connection to partner A (B) is on hold again.Consultation/Toggle call

$\textcircled{R} \textcircled{\text{6} \textcircled{\text{4} \textcircled{\text{H}}}}$ You connect your two conversation partners A and B with each other and you end the call yourself.











4.3.3.2 Transfer (Put a call through)

By initiating the transfer by pressing the key , you initially remain connected to your call partner A and the telephone asks you to enter the subscriber number for subscriber B, whom you want to connect to your call partner A. After the entry has been made and the key  has been pressed, the switching process starts. Your original conversation partner A calls the subscriber B you have selected, you yourself have ended the call and can hang up the receiver.



-  Indicates the numeric mode of manual input (dialling preparation)
-  Indicates that headset operation is turned on in the menu
-  Indicates the connection status to the gatekeeper

----- Dialling-----

-  Manual dialling. Enter the subscriber number using the numeric keys. In this operating mode you can enter digits and text characters and correct the entry if necessary. Finally, press the right arrow key  to start the transfer process.
-  **or** callback. The list of incoming calls will open, from which you can use the  and  keys to select the caller you want to connect to your partner A. Finally, press the right arrow key  to start the transfer process.
-  **or** redial. The list of outgoing calls will open, from which you can use the  and  keys to select the caller you want to connect to your partner A. Finally, press the right arrow key  to start the transfer process.

4.3.4 Other











4.3.4.1 Subscriber numbers

Your phone can dial not only normal subscriber numbers, but also H.323 names and IP addresses. Contains a participant number other than the digits 0-9 | * | # other characters, so it is interpreted as H.323 name. A preceding @ sign in H.323 names is automatically removed before dialling.

4.3.4.1.1 Manual input in immediate dialling mode

This mode only supports entering the characters 0-9 | * | # from the numeric keypad and dials characters as you type.

4.3.4.1.2 Manual input in dial preparation mode

This mode supports the input of numeric and text characters, allows the correction of input errors and dials the entered character string en block if you indicate the input as complete by pressing the key . This mode is identified by a small, inverted box in the lower right corner of the display. The box indicates whether the input is currently in number mode  or in text mode  |  is located. Switch to text mode  > , e.g. by holding down the key  until the first text character in the character list associated with the key appears on the display. Press the key in quick succession to replace the current character "a" with the next character "b" from the list. Wait until the cursor moves from the left to the right side of the last selected character "b" to finally accept the character. The return to digit mode  >  occurs when your character selection ends on a digit or you press the key .

Annemarie Bison 5008

5|

Indirect dialling **1** **aA** Text mode

1 Digit mode

1 Indicates the numeric mode of manual input (dial preparation)



1) Input of numeric and text characters.



Move the cursor one character to the left.



Move the cursor one character to the right **or**, if the insertion point is after the last character of the entry, finish the entry and start the dialling process for the entry.



Delete character before cursor.



Completes the entry and starts the dialling process for entry.





Completes the input and opens the prepare dialling context menu, in which various options for dialling the entered phone number can be selected.

1) While you are making entries, the telephone searches your contacts (telephone book) for entries that match the current status of your entry and then shows them in the display area if necessary. If you do not intend to search the telephone book, ignore the relevant outputs and just continue typing.

Key	Character list for the key
1	1 + () , - & @ # " * ! \$ % . / : ; < = > ? ' [] \ ^ _ ' { } ~ £ § ¨ ÷
2	2 a b c A B C ä à á â ã ä æ ç Ä Å Æ Æ Æ Æ Ç
3	3 d e f D E F è é ê ë Ë Ì Í Î
4	4 g h i G H I ì í î ï ï ï ï ï
5	5 j k l J K L
6	6 m n o M N O ö ñ ò ó ô õ ø Ñ Ò Ó Ô Õ
7	7 p q r s P Q R S ß
8	8 t u v T U V ü ù ú û Ü Û Ü Û
9	9 w x y z W X Y Z ý Ý ÿ
0	0 + () , - & @ # " * ! \$ % . / : ; < = > ? ' [] \ ^ _ ' { } ~ £ § ¨ ÷
*	*
#	(spaces)

Table 3 Entering text and special characters

4.3.4.2 Use contacts (telephone book)

As an alternative to entering telephone numbers manually, you can also use your contacts (telephone book). To do this, press the number key that corresponds to the first letter of the subscriber to be called and keep the key pressed for at least $T_{D2A} = 2,0$ s. When the key is released, the telephone switches to the text mode for dialling preparation and lists all subscribers found beginning with the selected first letter in the display area. Press again to advance to the next first letter or type a second letter to further narrow the list of results. If the remaining search result includes multiple contacts, select the party to call. To do this, use the vertical arrow keys  , to move the highlighting (inverse display) of the current selection to the subscriber you are looking for.

Divert to - Busy²⁾.....Opens the call diversion dialog, sets the Busy selection parameter to On and enters the entered subscriber number as a redirect destination in the nameless input parameter below Busy. Finally, press the key ⤴ to activate call forwarding.

Divert to - No reply²⁾Opens the Call diversion dialog, sets the selection parameter No reply to On and enters the entered subscriber number as a redirect destination in the nameless input parameter below No reply. Finally, press the key ⤴ to activate call forwarding.

1) Option only appears if several users are registered.

2) Option appears only if the protocol H.323 – or the protocol option Local Call Forward are configured.

4.3.4.4 Turn call protection on/off

With call protection you can temporarily switch off the ringing of the telephone, e.g. to be able to work undisturbed. Activated call protection is indicated by the pictogram ☒ in the display area. To switch call protection on or off, press the key * when the telephone is idle until the pictogram ☒ changes.

☞ 5.1.4.3 Do not disturb

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4.3.4.5 Lists

The phone keeps lists of incoming and outgoing calls and messages in chronological order, the information from which can be used, among other things, to initiate return calls or redial calls.

4.3.4.5.1 Incoming calls

In the idle state, press the recall key [Ⓡ] or navigate to Main menu\Call lists\Calls (inbound) in the main menu to open the call list for incoming calls. If the call list is not empty, it is presented as a consecutively numbered list of two-line entries. The most recent entry added last always has the number 01 and is the selected entry after opening the view, which is shown inversely. Each entry includes the date and time of the call, an icon representing the connection status, and the name and/or phone number of the external party on the second line.

	Date	Time		Connection status (pictograms)
Continuous numerating	01	21.05.21	11:20	☒ Unconnected (Missed)
	Julie 5001			
	02	19.05.21	20:16	☞ Voice connection
	Malte 5011			☞ voice connection, redirected
	03	19.05.21	19:30	☞ Voice connection, transferred
Name of the external subscriber	Smilla 5009			☒ Text message
	← Calls (inbound)			

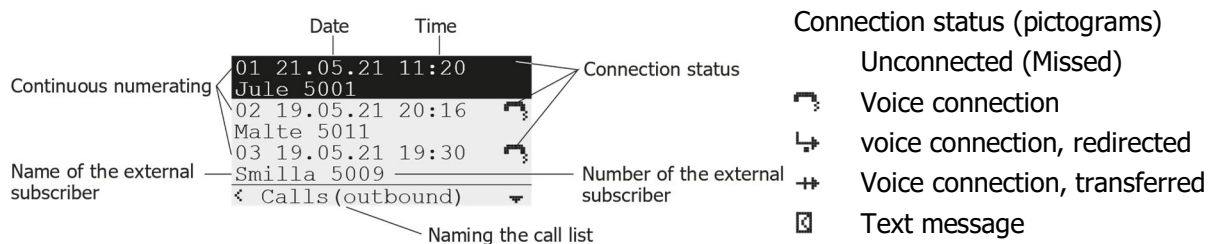
Naming the call list

Use the ⤴ and ⤵ keys to select the caller you want to call or call back, then press the right arrow key [Ⓡ] to start dialling.

Regardless of whether you actually called back or just looked at the call list, a number of missed calls ³ that was previously displayed in the idle state is hidden after you have opened the call list of incoming calls.

4.3.4.5.2 Outgoing calls

In the idle state, press the recall key [Ⓡ] for at least $T_L = 0,5$ s (redial) or navigate in the main menu to Main menu\Call lists\Calls (outbound) to open the call list for outgoing calls. If the call list is not empty, it is displayed as a consecutively numbered list of two-line entries. The most recent entry added last always has the number 01 and is the selected entry after opening the view, which is displayed inversely. Each entry includes the date and time of the call, an icon representing the connection status, and the name and/or phone number of the external party on the second line.



Use the and keys to select the caller you want to redial and then press the right arrow key to start the dialing process.

4.4 Operation, messages/displays on the display

4.4.1 Pictogram (call protection enabled)

This pictogram in the display area indicates that call protection has been activated. In the standard do not disturb setting, incoming calls are not signaled acoustically and the telephone does not ring. To deactivate call protection, press and hold the key when the telephone is idle until the pictogram disappears.

4.4.2 Pictogram (Missed Calls)

This pictogram in the display area shows the number of calls that you missed during your absence. Inspect the **Calls (inbound)** list to hide the display of missed calls. To do this, press the recall key or navigate to **Main menu\Call lists\Calls (inbound)**.

4.4.3 Pictogram (call forwarding enabled)

This pictogram in the left area of the footer indicates the activation of call forwarding, which always forwards incoming calls, when busy or with a delay. Inspect the set call diversion in **Main menu\User settings\Call diversion** and deactivate it if necessary.

4.4.4 Pictogram (number transfer disabled)

This pictogram in the left area of the footer indicates the deactivation of the number transmission for outgoing calls, which means that your calls are "anonymous". The people you are calling cannot see your phone number. Check the deactivated phone number transmission in **Main menu\User settings\display phone no** and activate it if necessary.

4.4.5 Pictogram (phone lock enabled)

This pictogram in the left area of the footer indicates the activation of the phone lock.



4.4.7 Text overlay "Attention, no emergency calls possible! " Page 34

4.4.6 Text overlay "Keyboard locked! "

This text overlay in the display area of the display is an indication that instantaneous direct dialing is activated. Direct dialing calls a configured destination number as soon as you set one of the conversation modes. To remove this lock, you can disable direct dialing or set a delay time > 0. To do this, navigate to the **Main menu\Phone settings\Direct dial** and set the selection parameter **Direct dial:** to **Off** or set the setting parameter **Delay (seconds):** to a value > 0.

5.1.5.2 Direct dial Page 43

4.4.7 Text overlay "Attention, no emergency calls possible! "

This text overlay in the display area of the display is an indication that the phone lock is activated. The locked telephone cannot be used for outgoing calls, nor are incoming calls signalled. To unlock the phone, first press the menu key , then enter your PIN in the *Authentication* query that opens and complete your entry by pressing the menu key  again. If the entered PIN was correct, the phone is unlocked and the device can be used again.

5 Menu

5.1 Main Menu Overview

```
□-Call lists.....
| □-Calls (combined).....
| □-Calls (inbound).....
| □-Calls (outbound).....
| □-Active callbacks.....
□-Contacts.....
| □-Directory input.....
| □-Search (local).....
| □-Search (external)....
| □-Search (PBX).....
| □-Search (combined)....
□-Messages.....
| □-New message.....
| □-Messages(incoming)...
| □-Messages(outgoing)...
□-User settings.....
| □-Call diversion.....
| □-Presence.....
| □-Do not disturb.....
| | □-Do not disturb: Off
| | □-Action: Ringing off
| | □-For: Every call
| □-Call waiting: On def.
| □-display phone no.: On
□-Phone settings.....
| □-Headset: Off
| □-Direct dial.....
| | □-Direct dial: Off
| | □-Number:
| | □-Delay (seconds):0
| □-Lock phone.....
| □-Change PIN.....
| □-LCD contrast.....8
□-User list.....
| □-1 Alpha.....5555 +*
| □-2 .....
... ..
| □-6 .....
□-Administration.....
| □-Informationen.....
| | □-IP 192.168.101.20 // IPv4 Internet address
| | □-Ser 009033280000
| | □-13r2 dvl
| | □-IP162[21.0225]
| | □-Bootcode[210301]
| | □-Hardware[1000]
□-IP settings.....
□-Registration.....
□-STUN.....
□-Reset configuration..
```

5.1.1 Main menu – Call lists

The telephone keeps lists of incoming and outgoing calls and messages in chronological order, the information from which can be transferred to the contact list (telephone book) or used to initiate recall or redial calls. The call lists menu branches into various list views in which the entries from the original lists are compiled into an ordered list.

Calls (combined)Opens a combined list of incoming and outgoing calls.

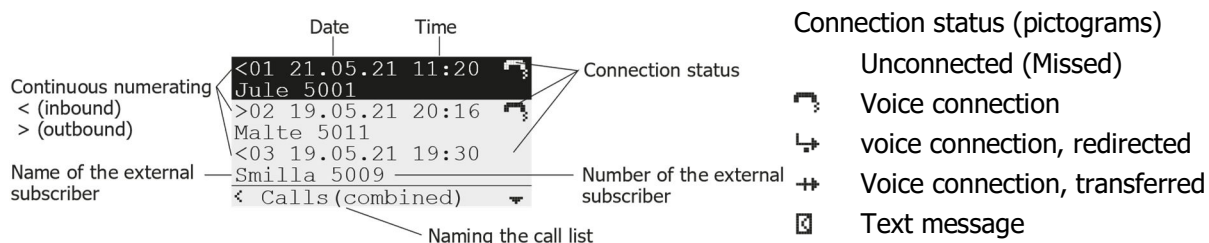
Calls (inbound).....Opens the list of incoming calls.

Calls (outbound)Opens the list of outgoing calls.

Active callbacks.....Opens the list of active callbacks.

5.1.1.1 View Call lists

If the selected call list is not empty, the call list is displayed as a consecutively numbered list of two-line entries. The most recent entry added last always has the number 01 and is the selected entry after opening the view, which is displayed inversely. Each entry contains the date and time of the call, an icon that represents the connection status, and the name and/or phone number of the external subscriber in the second line. The name of the selected call list is shown in the footer of the display.



-----Key actions -----

- Closes the current call log view and returns to the parent menu.
- Selects the next entry in the call list.
- Selects the previous entry in the call list.
- Opens the "Edit call list" sub-menu for editing the selected entry.
- Starts dialling the subscriber number of the selected entry. (press the recall key for at least $T_L = 0,5$ s)

5.1.1.2 Edit call list, Edit Call lists

Information.....Opens an info box for the entry in the call list, in which the following information about the connection is displayed.

Info-Box: Calls (inbound)

For: Local user
From: External subscriber
Via: External broker ¹⁾
Duration: h:mm:ss


Info-Box: Calls (outbound)

From: Local user
For: External subscriber
Via: External broker ¹⁾
Duration: h:mm:ss

¹⁾ Display is only made for redirected, mediated or transferred connections:

Local user	name/phone number of the local phone user
External subscriber	name/phone number of the external subscriber
External broker	Name/phone number of the external broker that redirected, mediated, or transferred the connection.

h:mm:ssTalk duration in hours, minutes & seconds or -:--:-- , if no connection had been established.

Save no. in directory Opens the register input dialog of the contacts list (phone book) and transfers the connection data from the entry of the call list into the corresponding input fields of the register entry. Complete or change the data and save the contact by pressing the menu key .

Indirect dialling.....Opens the dialing preparation entry and transfers the connection data from the entry in the call list to the dialing preparation input field.

Delete entry.....Deletes the selected entry from the call list.

Delete list.....Deletes all subsequent entries from the call list, starting with the selected entry.

5.1.2 Main menu – Contacts

The telephone contains a configurable contacts list (telephone book) in which the names and telephone numbers of your call partners are stored in alphabetical order. Individual settings can be made for each entry in the list in order to determine the ringing behavior (ringing) specifically for the caller. In addition to the local list, the administrator can set up connections to contact lists that are managed in an external LDAP server and/or centrally in your telephone system. The Contacts menu branches to the directory input sub-menu, which can be used to create a new, local contact, or to the search sub-menus, which allows you to search for a subscriber in one of the contact lists.

Directory input.....Open dialog to enter a new contact

Search (local)Search subscriber in the contacts list of the phone

Search (external).....Search subscriber in the contacts list of an external LDAP server

Search (PBX).....Search subscriber in the contacts list of the telephone system

Search (combined).....Search subscriber in all contact lists

5.1.2.1 Directory input

The directory input dialog is used to create a new contact or to edit an existing one.

Subscriber:Input parameters for specifying the subscriber name under which the entry is inserted in the alphabetically sorted contact list. The input field is in the line below the name *Subscriber*.

Number: ¹⁾Input parameters for specifying the subscriber number and optional Dtmf characters that are transmitted to the target telephone after the connection has been established. The optional dtmf characters are to be added after the subscriber number, separated by a comma.

4711 Subscriber number

4711,*101# Subscriber number with trailing Dtmf character transmission


Name: ¹⁾Input parameters for specifying the subscriber name that carries the dialing information instead of the number (e.g. subscriber designation within the PBX used).

Settings.....Opens the settings dialog, in which the ringer behavior for calls from the subscriber can be set.

Delete ²⁾Deletes the current entry from the contacts list.

¹⁾ Either the *Number* input parameter or the *Name* input parameter must be used to specify the dialling information.

²⁾ The *Delete* command is only available if register entry is used to edit an existing contact.

After you have made your selections, press the menu key  repeatedly until the text message **Entry saved** appears.

5.1.2.1.1 Settings

Settings dialog for setting the ringer signaling (ringing) to be used when the subscriber specified in the **Subscriber** input parameter of the contact calls.

Ring:.....Selection parameter to turn ringing on and off.


- On The acoustic sound call signaling (ringing) is switched on.
- Off The acoustic sound call signaling (ringing) is switched off.

Ring tone.....Opens the **Ring melody** dialog, in which the melody, volume and speed of the ringer signaling (ringing) can be set.

☛ 5.1.2.1.1.1 Set ring melody for contact Page 38

Registration.....Opens the Registration dialog, where nothing can be set.

5.1.2.1.1.1 Set ring melody for contact

Start | Stop.....Setting variable for starting and stopping the ringing tone generator. Press the key  to start playing the set ringer, and press it again to stop playing.

Melody:.....Selection parameters for defining the ringer melody.

- Default Standard melody
- 3tone 1 - 3tone 3 Triad-tone tones 1-3
- 2tone 1 - 3tone 5 Two-tone tones 1-5
- tone 1 - tone 2 Unisono-tone tones 1-2
- ringer Ringer

Vol:Selection parameters to set the volume.

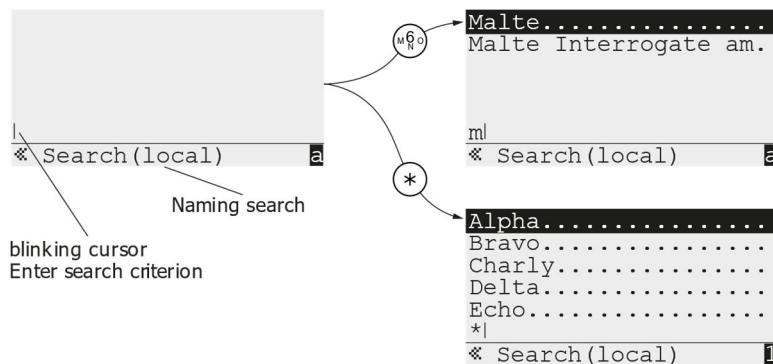
- Def Default volume
- 1 - 11 Volume levels 1 - 11
- Max Maximum volume

Spd:Selection parameter to set the playback speed.

- Def Default playback speed
- 1 - 5 Playback speed 1 - 5
- Max Maximum playback speed

5.1.2.2 Search subscriber

The selected subscriber search appears with a deleted display area, in the bottom line of which the blinking cursor awaits the entry of a search criterion. The footer of the display shows the name of the selected search mode and the current text/numeric entry mode. As soon as a character is entered, the contacts whose subscriber designation begins with the entered character are displayed in the display area, or all contacts if the character * was entered. The first line of the displayed search results marks the selected contact and is displayed inversely.



-----Key actions -----

- Enter the first letters of the subscriber you are looking for or enter characters * if you want to display all subscribers in the list.
- Move the cursor one character to the left
- Move selection to the next contact within the search results
- Delete characters before cursor.
- Move selection to the previous contact within the search results.
- Move the cursor one character to the right or open the *Directory input* dialog to edit the selected contact.
- Call selected contact. (Press the recall key for at least $T_L = 0,5 \text{ s}$)

5.1.3 Main menu – Messages

5.1.4 Main menu – User settings

Main menu\ **User settings**

The phone maintains a set of configuration parameters for each registered user, in which users can make individual settings to redirect calls, allow or disallow call waiting during active calls, etc. The User Settings menu contains the setting items to configure the activated user's parameter set to configure. If several users are registered, it must be ensured that the user whose configuration is to be inspected and/or changed is also the activated user.

The active user is set in 0 Main menu – User list Page 45; there you will find further user-specific settings for the menu language, signal tones, function keys, etc.

Below are the menu items that are detailed in the following sub-chapters.

Call diversion¹⁾.....Open dialog to set up call forwarding.

Presence.....Open dialog to set availability (presence).

Do not disturb.....Open the dialog to set a call protection.

Call waiting:.....Selection parameter for setting the call waiting (knock) behavior.

display phone no.:....Selection parameter for switching phone number transfer on/off.


1) optionally

5.1.4.1 Call diversion, optional

Main menu\ **User settings**\ **Call diversion**

The call forwarding dialog is optional and only visible if the requirements, which are explained below, are met. If visible, the dialog can be used to set up diversions that route incoming calls to other subscriber numbers, the destination of the diversion. For example, during your absence, forward all calls to your mobile phone so that you can be reached at any time. Below are the response conditions for the three call forwarding's, which you can switch on and off independently of one another.

- Always Forwards every call immediately to the set forwarding destination.
- Busy Forwards those calls to the set forwarding destination that reach your connection in the "busy" state, i.e. exactly when you are on the phone.
 If you have also activated the call waiting feature, the call will only be forwarded if you reject the caller with the key sequence **R0**.
- No reply Forwards those calls to the set forwarding destination that are not answered within a delay.

When the set is idle, the activation of any call forwarding is indicated by the pictogram  shown on the left in the footer of the display. If the "Always" call forwarding is activated, the inverse text "Diverted to, forwarding destination" also appears in the display area.

Below is the description of the dialog parameters, which contain a selection parameter Response condition for each of the three call forwardings and in the following line a nameless input parameter forwarding destination. To change the settings, first press the key **YES** to open the dialog of the same name. Set the configuration you want for the dialog elements described below and, if you have changed settings, press the menu key **⇒** repeatedly until the text display **OK** confirms that the changes have been saved

- Always: Selection parameter to turn call forwarding "Always" on and off.
- Off Call forwarding is turned off or disabled
 - On Call forwarding is turned on or enabled.
- Nameless input parameter for entering the redirect destination "Always".
- Busy: ¹⁾ Selection parameter to turn call forwarding "Busy" on and off.
- Off Call forwarding is turned off or disabled
 - On Call forwarding is turned on or enabled.
- Nameless input parameter for entering the redirect destination "Busy".
- No reply: ¹⁾ Selection parameter to turn call forwarding "No reply" on and off.
- Off Call forwarding is turned off or disabled
 - On Call forwarding is turned on or enabled.
- Nameless input parameter for entering the redirect destination "No reply".

¹⁾ These call redirects can only take effect if call forwarding is always turned off.

Factory settings:

- Always: Off // Call Forwarding "Always" off, redirect destination "Always" empty
- Busy: Off // Call forwarding "Busy" off, redirect destination "Busy" empty
- No reply: Off // Call forwarding "No reply" off, redirect destination "No reply" empty





Preconditions

Call forwarding requires the configuration of the H.323 protocol and then works according to the H.450 standard if the gatekeeper supports this protocol. Alternatively, it is possible to set the protocol option Local Call Forward, which shifts the conversion of call forwarding from the PBX to the device.

5.1.4.2 Presence *(optional)*

Main menu\User settings\Presence

The effects of the menu item shown here depend on the PBX used.

Dialog availability allows you to easily define your availability and to associate it with the automatic output of a message that is sent to a potential caller to inform them why you are currently unavailable. The determination is made with the selection parameter Activity, which is to be set to the value that justifies the unavailability or to the nameless (empty) value that is to be set if you can be reached again and no message is sent shall be. A message can be individually expanded in the Note input parameter. To change the availability settings, first press the key  to open the dialog of the same name. Set the configuration you want for the dialog elements described below and, if you have changed settings, press the menu key  repeatedly until the text display OK confirms that the changes have been saved.

Activity: Selection parameter for defining accessibility/unavailability.

- | | |
|----------------|---|
| 1) | Reachable, do not send a text message to a caller. |
| Away | Unavailable due to absence. |
| Busy | Unavailable due to other employment. |
| Lunch | Unavailable because of taking lunch. |
| Vacation | Unavailable due to vacation-related absence |
| Do not disturb | Unavailable because of the need for undisturbed work. |

Note Input parameter for individual extension of the message body.




- 1) empty, without name.

Factory settings:

Activity: // Reachable
Note..... // empty

5.1.4.3 Do not disturb

Main menu\User settings\Do not disturb

Dialog enables the signaling of incoming calls to be restricted, e.g. to be able to work undisturbed. The activated call protection is indicated by a pictogram  in the display area when the telephone is idle. To change the do not disturb settings, first press the key  to open the dialog of the same name. Set the configuration you want for the dialog elements described below and, if you have changed settings, press the menu key  repeatedly until the OK text display confirms that the changes have been saved.

Do not disturb: Selection parameters to turn call protection on and off.

- | | |
|-----|---|
| Off | Call protection is turned off or disabled |
| On | Call protection is turned on or enabled. |

Action: Selection parameters to specify the action to take when call protection is enabled and calls are received.

- | | |
|---------------|--|
| Ringing off | The acoustic tone signaling (ringing) is switched off. |
| Out of office | The acoustic tone signaling (ringing) is switched off and the caller is sent a text message that can be set in the Out of office note message input parameter. |
| Ring once | The acoustic tone signaling (ringing) is limited to the output of a single ring signal. |
| Silence | The acoustic tone signaling (ringing) and the optical signaling of the call on the display are switched off. |
| Busy | Like the silence setting, but the telephone behaves towards the caller as if it were busy. |

For: Selection parameters to specify the calls for which call protection is enabled.

Every call	Call protection is to be applied to all calls.
External calls	Call protection is to be applied to external calls.
Internal calls	Call protection is to be applied to internal calls.
Out of office note	Input parameter for entering a text message to the caller.

Factory settings:

Do not disturb:.....Off // Call Protection Disabled
 Action:.....Ringing off // Acoustic sound call signaling turned off
 For:.....Every call // call protection applies to all calls
 Out of office note..... // Out of office message is empty

5.1.4.4 Call waiting: On def. | On once | On mute | Off

Main menu\User settings\Call waiting

Call waiting selection parameter determines how the set should deal with a call that arrives during an active call. When call waiting is switched off, the device enters the caller in the call list for incoming calls and the caller immediately hears the "busy" signal tone. If, on the other hand, call waiting is activated, the call is first signaled visually and, if necessary, acoustically on the set and the called party decides how to proceed. He can reject the caller with key sequence $\textcircled{R}\textcircled{0}$ or establish a connection to him with key sequence $\textcircled{R}\textcircled{?}$. During the signalling, the caller receives the signal tone "call waiting", in the case of rejection the signal tone "busy" or otherwise the desired speech connection.

To change the setting, set the selection parameter described below to the value you want and, if you have changed the setting, press the menu key $\textcircled{\rightarrow}$ repeatedly until the text display OK confirms that the change has been saved.

Call waiting:.....Selection parameter for determining the procedure for calls that arrive during active telephone calls.

On def.	Call waiting is switched on, the call is signaled optically and acoustically. - Optical: Message 1 call pending, subscriber XXXX in the display area. - Acoustic: Short, call-periodic emitted beep
On once	Call waiting is switched on, the call is signaled optically and acoustically. - Optical: Message 1 call pending, subscriber XXXX in the display area. - Acoustic: Long beep emitted once
On mute	call waiting is switched on, the call is only signaled optically. - Optical: Message 1 call pending, subscriber XXXX in the display area. - Acoustic: mute
Off	Call waiting is switched off, the call is not signaled.

Factory settings:

Call waiting:.....On def. // Call waiting switched on with optical and acoustic signaling.

5.1.4.5 display phone no. : On | Off

Main menu\User settings\display phone no.

Number transmission selection parameters determines whether the caller's number is transmitted to the called party in outgoing calls. When the telephone is idle, switched off phone number transmission is indicated by the pictogram ## that is shown on the left in the footer of the display.

To change the setting, set the selection parameter described below to the value you want and, if you have changed the setting, press the menu key $\textcircled{\rightarrow}$ repeatedly until the text display OK confirms that the change has been saved.

display phone no.:....Selection parameter for switching the phone number transmission on and off

On	Number transmission to the called party is switched on
Off	Number transmission to the called party is switched off


Factory settings:


display phone no.:.....On // Number transmission to the called party is switched on

5.1.5 Main menu – Phone settings

5.1.5.1 Headset: **Off** | On

Main menu\Phone settings\Headset

Headset selection parameter determines whether the headset conversation modes are enabled and whether they are activated or deactivated when the corresponding key is pressed. The release of the headset is indicated by the pictogram  on the right in the footer of the display when the telephone is idle.

To change the setting, set the selection parameter described below to the value you want and, if you have changed the setting, press the menu key  repeatedly until the text display OK confirms that the change has been saved.

Headset:Selection parameter for switching headset release on and off

Off	Headset operating modes are locked
On	Headset operating modes are released

Default setting:

Headset:Off // Headset operating modes are locked

5.1.5.2 Direct dial

Main menu\Phone settings\Direct dial

In the Direct Dial dialog, a destination number can be specified that the phone calls after an adjustable delay if the user switches from idle mode to one of the conversation modes, e.g. handset mode. Within the current delay time, the user has the option of averting the pending direct dialing by manually dialing another destination number.

To change the direct dial settings, first press the key  to open the dialog of the same name. Set the configuration you want for the dialog elements described below and, if you have changed settings, press the menu key  repeatedly until the OK text display confirms that the changes have been saved.

Direct dial:.....Selection parameter for switching direct dialing on and off

Off	Direct dialing is turned off
On	Direct dialing is switched on


Number:.....Input parameters for specifying the destination phone number and optional Dtmf characters that are transmitted to the destination phone after the connection has been established. The optional Dtmf characters are to be added to the destination phone number, separated by a comma.

4711	Destination number
4711,*101#	Destination number with trailing Dtmf character transmission

Delay (seconds):Input parameter to specify the delay duration T in seconds.

$0 \text{ s} \leq T \leq 65535 \text{ s}$

Hints:

- If direct dial is activated without delay, pressing a key causes the text message "Keyboard locked!" to be displayed. An exception to this is the menu key , which you can use to change the direct dialing parameters.




Default setting:

Direct dial:Off // direct dialing disabled
Number: // empty
Delay (seconds): 0 // delay 0 s

5.1.5.3 Lock phone





Main menu\Phone settings\Lock phone

Action button Lock activates the lock of the phone, which can neither be used for outgoing calls nor will incoming calls be signaled when the lock is activated.

To apply the lock, first press the key , after which you will be prompted to enter the PIN of the device in the opened Authentication query. Confirm your entry of the PIN by pressing the menu key . If the PIN was correct, the text "Attention, no emergency calls possible!" is briefly displayed and the locked phone switches to idle state, in which the pictogram  on the left in the footer of the display shows the activated lock.

5.1.5.4 Change PIN

Main menu\Phone settings\Change PIN

In the "Change PIN" dialogue, the PIN can be changed, which should prevent access for unauthorized users. To change the PIN, first press the key  to open the dialog with its input parameters Cur PIN, New PIN & New PIN. Then use the number keys to enter the current PIN and the new PIN. The latter must be entered twice to ensure that both entries are identical. Change the cursor from line to line with the help of the keys  or . Finally, press the menu key  to save the entered new PIN as the current PIN. If your entries were correct, the short text Changes activated will appear. If an error is detected, the current PIN is incorrect or the two newly entered PINs do not match, the invalid PIN text is briefly displayed and the dialog is ready for a new change attempt with the input parameters deleted.


Factory settings:

PIN:..... empty, PIN protection not active!

5.1.5.5 LCD contrast: 1|2|...| 15

Main menu\Phone settings\LCD contrast:

Selection parameter LCD contrast determines the contrast of the Oled display (parameter is traditionally called LCD and has not been renamed for the Oled display used in the ResistTel IP4/IP162).

To change the setting, set the selection parameter described below to the value you want and, if you have changed the setting, press the menu key  repeatedly until the text display OK confirms that the change has been saved.

LCD contrast:.....Selection parameter for defining the Oled contrast.

1 - 14	Adjustment range 1 - 14
15	Maximum contrast

Factory settings:

LCD contrast:.....8 Medium contrast setting

5.1.6 Main menu – User list

Main menu\ **User list**

The phone supports registration of up to 6 users; one activated user and up to 5 co-users. Outgoing calls are always made with the identity (subscriber number) of the activated user, while all incoming calls to one of the registered and logged-in users are signaled on the phone (ringing). It is easy to switch over during operation who is an active user of the telephone and which of the registered co-users are logged in or out. The figure below shows two differently configured user lists and an example of how one of the user menus is called up

Single user configuration

1	Annemarie ... 5008	+	*
2		
3		
4		
5		
6		
< User list			

Activation mark
Registration status

Activation mark

* Activated user

Multi user configuration

1	Annemarie ... 5008	+	*
2	Smilla Tin... 5009	+	
3	Malte Tinn... 5011	+	
4 5012	-	
5		
6		
< User list			

Registration status

+ Registered user (incoming calls are signaled)

- Deregistered user (incoming calls are not signaled)


User 2 Smilla menu

Activate.....
Preferences.....
Ring melody.....
Function keys.....
Registration.....
* Smilla Tinnefeld

The user list menu contains a numbered element for each potential user, which shows the name, subscriber number, registration status and activation status of registered users after the user number.


5.1.6.1 Activate of users 1-6

Main menu\User list\n UserName\ **Activate**

Navigate to the action-switch **Activate** in the User menu of the user n you want to make the phone's activated user. Then press the key  to execute the activation. To confirm the action, the text message OK appears briefly on the display, followed by a return to the opened User list menu.


5.1.6.2 register/deregister of users 2-6 (co-users)

Main menu\User list\n UserName\Registration\ **register/deregister**

Navigate to the action-switch **register/deregister** in the Registration menu of the co-user n you want to register or deregister. Then press the key  to carry out the re-registration. To confirm the action, the text message OK appears briefly on the display, followed by a return to the opened User list menu.

5.1.6.3 Registration of users 2-6 (co-users)

Main menu\User list\n UserName\Registration\ **Settings**

Navigate to the **Settings** item in the Registration menu of the co-user n you want to register or whose registration you want to change. Then press the key  to open the Registration dialog, which is described below.

Protocol: Selection parameter to select the protocol to use

H323	Protocol H323
TH323	Protocol TH323
SH323	Protocol SH323
SIP	Protocol SIP
TSIP	Protocol TSIP
SIPS	Protocol SIPS

Name: Input parameter for optional setting of the user name.

Number: Input parameter for optional definition of the user number.

Passw. : Input parameter for optional setting of a user password.

VoIP Gatekeeper:Open the dialog of the same name to determine the gatekeepers.

☞ 5.1.6.3.1 Setting the VoIP Gatekeeper Page 46

Options:Open the dialog of the same name to set options.

☞ 5.1.6.3.2 Options Page 46

5.1.6.3.1 Setting the VoIP Gatekeeper

5.1.6.3.1.1 VoIP Gatekeeper H323, TH323 & SH323

Gatekeeper ID.....Name of the following input parameter line

.....input parameters for specifying the gatekeeper name.

Primary gatekeeper....Name of the following input parameter line

1)input parameters for specifying the primary gatekeeper IP address.

Secondary Gatekeeper.Name of the following input parameter line

1)input parameters to specify the optional secondary gatekeeper IP address.

1) The IP addresses are entered in text mode. The dots "." to separate the different address sections must also be entered. This should preferably be done with key 1, which must be pressed for at least 2,0 s in order to switch the input to text mode, and then to select the character "." by pressing it several times.

5.1.6.3.1.2 VoIP Gatekeeper SIP, TSIP & SIPS

Name:.....Input parameter for optionally specifying the domain name.

ProxyName of the following input parameter line

1)input parameters for defining the proxy.

Proxy 2.....Name of the following input parameter line

1)input parameters for optionally specifying an alternative proxy 2

STUN:.....Open dialog for defining the STUN/TURN server settings.

1) The proxy is entered in text mode. If you enter IP addresses, the dots "." to separate the different address sections must also be entered. This should preferably be done with key 1, which must be pressed for at least 2,0 s in order to switch the input to text mode, and then to select the character "." by pressing it several times.

5.1.6.3.2 Options Tones

Here you set the signal tones to be used by the telephone, with which the network-related status of the device is acoustically indicated.


Tones:Selection parameters for selecting the tones to be used

europe-pbx	Europe, private intermediation systems
europe-public	Europa, public switching systems
us	United States
uk	United Kingdom
italy-pbx	Italy, private intermediation systems
italy-public	Italy, public switching systems
czech-pbx	Czechia , private intermediation systems
czech-public	Czechia, public switching systems

sweden	Sweden
france	France
swiss	Switzerland
belgium	Belgium
netherlands	Netherlands
norway	Norway
denmark	Denmark
germany	Germany
spain	Spain
finland	Finland
austria	Austria
ireland	Ireland
australia	Australia
new zealand	New Zealand
malaysia	Malaysia
turkey	Turkey
russia	Russia
south africa	South Africa
brazil	Brasilien

5.1.6.4 Set menu language and time format for users 1-6

Main menu\User list\n UserName\Preferences

Navigate to the Preferences item in the user menu of the user n whose menu language and/or date format you want to specify. Then press the key  to open the Preferences dialog described below.





language:.....Selection parameter for selecting the menu language to use

Deutsch	Menu language German
English	Menu language English
Francais	Menu language Francais
Nederlands	Menu language Dutch
Italiano	Menu language Italian
Espanol	Menu language Spanish
Svenska	Menu language Swedish
Dansk	Menu Language Danish
Norsk	Menu Language Norwegian
Suomi	Menu language Finnish
Cestina	Menu language Czech
Eesti	Menu language Estonian
Portugues	Menu language Portuguese
Latviesu	Menu language Latvian
Hrvatski	Menu language Croatian
Polski	Menu language Polish
Russian	Menu Language Russian
Slovenija	Menu language Slovenian

Magyar	Menu language Hungarian
Thai	Menu Language Thai


Time:..... Selection parameter to select the time format to use


Default	Date and time display in standard format	dd.mm.yy hh:mm
24H	Date and time display in 24 h format	dd.mm.yy hh:mm
AM/PM	Date and time display in 12 h format	mm/dd hh:mm xm

After you have made your specifications, press the menu key  repeatedly until the security prompt Save changes? appears, which you can confirm by pressing a key  or deny with a key sequence  .


5.1.6.5 Set ring melody for users 1-6

Main menu\User list\n UserName\Ring melody

Navigate to the Ring melody item in the user menu of the user n whose ringer settings you want to set. Then press the key  to open the Ring melody dialog, which is described below.

Ringtone xxx..... Setting variable for selecting the call variant xxx for which the settings for melody, vol and spd are to be made. Press the key  each time you want to switch to one of the call variants below.

int	Ringer for calls from internal subscribers
ext	Ringer for calls from external subscribers
ret	Ringer for recalls
msg	Ringer for incoming messages

Start | Stop..... Setting variable for starting and stopping the ringing tone generator. Press the key  to start playing the set ringer, and press it again to stop playing.

Melody:..... Selection parameters for defining the ringer melody.





Default	Standard melody
3tone 1 - 3tone 3	Triad-tone tones 1-3
2tone 1 - 3tone 5	Two-tone tones 1-5
tone 1 - tone 2	Unisono-tone tones 1-2
ringer	Ringer

Vol: Selection parameters to set the volume.

Def	Default volume
1 - 11	Volume levels 1 - 11
Max	Maximum volume



Spd: Selection parameter to set the playback speed.

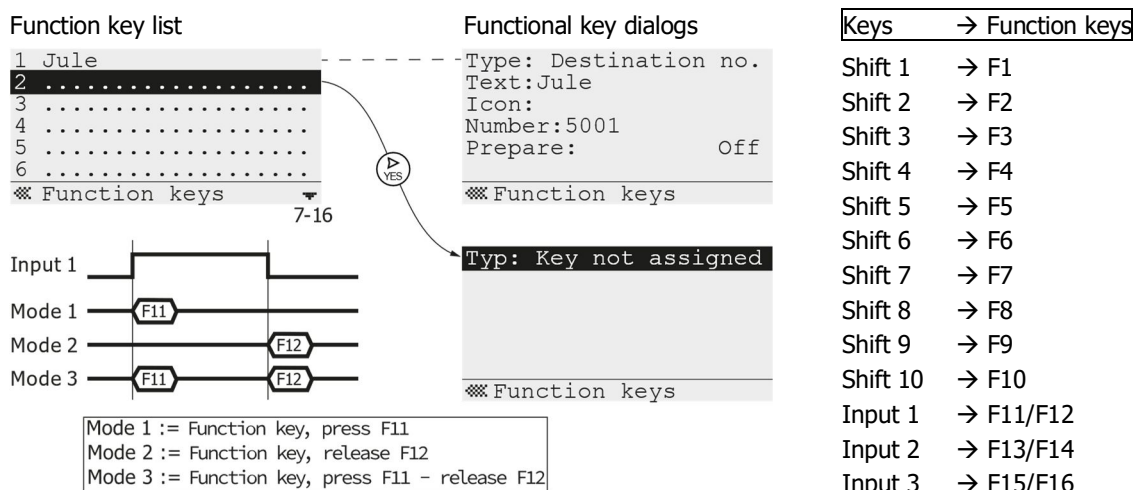
Def	Default playback speed
1 - 5	Playback speed 1 - 5
Max	Maximum playback speed

After you have made your specifications, press the menu key  repeatedly until the security prompt Save changes? appears, which you can confirm by pressing a key  or deny with a key sequence  .

5.1.6.6 Set function keys for users 1-6

Main menu\User list\n UserName\Function keys

Navigate to the Function keys item in the user menu of the user whose function keys you want to define. Then press the key  to open the Function Keys list, which allows you to assign a selectable function to each of the 16 function keys, which is executed when the corresponding key on the telephone is pressed. The figure below shows the open list of function keys and the differently configured dialogs for function keys 1 (F1) and 2 (F2), which can be opened from the list by pressing the key .



To the right of the figure you will find the assignment of the telephone keys to the function keys in the list. Two function keys FN/FN+1 are assigned to each of the three "keys" Input 1 – Input 3 of the telephone, which are triggered when the inputs are activated alternately, as shown in the timing diagram in the figure above for Input 1, depending on the operating mode. The necessary operating mode configuration of the inputs can only be made in the drop-down lists Input 1 - Input 3 of the web interface WebIp162\Device\Keypad. The operating mode names Mode 1-Mode 3 used in the figure are "Function key, press F11", "Function key, release F12" and "Function key, press F11 - release F12".

Hint:

- Entries in the function key list that are preceded by an asterisk (1 * Jule) have been blocked for telephone users in the web interface WebIp162\Phone\User-n\Function-Keys. Attempts to open the associated dialogs will be ignored!

5.1.6.6.1 Function keys dialogs in general

Below is the *annotated* description of a fictitious function key dialog listing the dialog elements common to the concrete dialogs. The Text, Icon & LED elements are designed for telephone models with softkeys that can be labeled and can be left in their default settings on the ResistTel IP4/IP162 that does not have this equipment. An exception to this is the Text element, which you can use to specify the labeling of the function key f in the function key list, which is otherwise labeled with the specified function type.

Type: Xyz...Selection parameter set to function type Xyz.

Specifies the function type for the selected function key f and causes the type-specific dialog elements to be displayed in the dialog.

State:Selection element for setting the functional state

Appears only for those function types whose function distinguishes between different states. The setting causes the state-dependent dialog elements to be displayed in the dialog. The general description is then followed by an enumeration with a description of the various states that the respective function has. During operation, each actuation of the function key f causes the

functional status to change. In the example, successive presses toggle the feature on and off continuously.

1	Feature is turned off.	<i>Functional description for state 1.</i>
2	Feature is turned on.	<i>Functional description for state 2.</i>
Text: ^[1] _[2]	Input parameters for optional specification of labeling texts. <i>No effect on the ResistTel IP4/IP162, except for Text^[1], which replaces the standard labeling of the f key in the function key list.</i>	
Icon: ^[1] _[2]	Selection parameter for the optional definition of pictograms. <i>With ResistTel IP4/IP162 without effect.</i>	
LED: ^[2]	Selection parameter for defining the LED operating mode in state 2 <i>With ResistTel IP4/IP162 without effect.</i>	

5.1.6.6.2 Function "Destination no. " for selected key f

Function key f causes the call of the subscriber number defined in the following dialog.

Type:Destination no.	Selection parameter set to function type Destination no.	
Text:.....	Input parameters for optional specification of labeling texts.	
Icon:.....	Selection parameter for the optional definition of pictograms.	
Number:.....	Input parameters for specifying the destination phone number and optional Dtmf characters that are transmitted to the destination phone after the connection has been established. The optional Dtmf characters are to be added to the destination phone number, separated by a comma.	
	4711	Destination number
	4711,*101#	Destination number with trailing Dtmf character transmission
Prepare:.....	Selection parameter for specifying the functional sequence that is to be executed when the key is pressed.	
Off	Destination number is dialed immediately.	
On	Destination phone number is copied into the dialling preparation and can be changed/extended manually; the dialling process itself must also be triggered manually.	


5.1.6.6.3 Partner function for selected key f

Function monitors the state of the partner telephone specified here and when the function key f is pressed when the partner telephone is idle, it makes a direct call, when there is a call it picks up the call and when there is a call it also makes a direct call (call waiting).

Type:Partner.	Selection parameter set to function type Partner.	
Text:.....	Input parameter for optional specification of labeling texts.	
Icon:.....	Selection parameter for the optional definition of pictograms.	
Number:.....	Input parameter for specifying the destination phone number.	
Display number	Open the dialog below to define the partner statuses that are to be shown in the display of this telephone.	
calling:	Selection parameter to display the partner status "calling".	
Off	Partner state "calling" is not displayed.	
On	Partner state "calling" is displayed.	
connected:	Selection parameter to display the partner status "connected".	
Off	Partner state "connected" is not displayed.	
On	Partner state "connected" is displayed.	

Presence: Selection parameters to display partner availability

Off	Partner availability is not displayed.
On	Partner availability is displayed.

	Preconditions
<p>The PBX used must support the partner function feature, both phones must belong to the same group and the partner function must be activated.</p>	

5.1.6.6.4 "Park" function for selected key f

Function key f causes a connection to be parked at the position specified in the dialog. When you press the button, your call partner is parked, you end the connection, e.g. by hanging up the handset, and then pick up the call again on the telephone specified in the dialog.

Type: Park. Selection parameter set to function type Park.

Text: Input parameters for optional specification of labeling texts.

Icon: Selection parameter for the optional definition of pictograms.

Number: Input parameter to define the phone number of the object where the call is to be parked.

Position: Input parameter to specify an additional parking position, typically 0.

Display number Open the following dialog to set display options.

calling:	Selection parameter to specify the display option "calling".
Off	Display the number of the parked subscriber.
On	Suppress the number of the parked subscriber.

5.1.6.6.5 Pickup function for selected key f

Function monitors the status of the telephones in your own call group and signals calls to these telephones on the display. Function key f accepts these optically signaled calls. Calls from telephones in the call group are shown in the form CGPN→CDPN (caller→callee) at the bottom right of the display area. If several calls are made at the same time, a list of CGPN→CDPN entries is displayed from which the call can be selected that is to be answered by pressing the function key f.

Type: Pickup. Selection parameter set to function type Pickup

State: Selection element for setting the functional state

1	Telephones in the call group are idle or busy, pressing the function key f has no effect.
2	At least one telephone in the call group is called. Pressing the function key f causes this call to be accepted.

Text: ^{[1][2]} Input parameters for the optional definition of labeling text.

Icon: ^{[1][2]} Selection parameter for defining a pictogram.

LED: ^[2] Selection parameter for defining the LED operating mode in state 2

Display number Open the dialog below to specify the call signalling.

calling:	Selection parameter for specifying the call signalling.
Off	Call signaling takes place in the form →CDPN.
On	Call signaling is in the form CGPN→CDPN.



Preconditions

The PBX used must support the partner function feature, both telephones must belong to the same group and the partner function must be enabled.

5.1.6.6.6 Function "MWI" for selected key f

Function key f controls the connection to the message center specified in the dialog in order to listen to messages stored there.

Type: MWI... Selection parameter set to function type MWI

State: Selection element for setting the functional state

1 No new messages available.

2 New messages available.

Text:^{[1][2]} Input parameters for optional specification of labeling texts.

Icon:^{[1][2]} Selection parameter for the optional definition of pictograms.

LED:^[2] Selection parameter for defining the LED operating mode in state 2.

Number: Input parameters for specifying the number of the message center.

Add own nr.: Selection parameter for specifying the "Add own number" option.

Off Use message center number only.


On Append your phone number to the message center number.

Global: Selection parameters for specifying the "Global" option.

Off Restrict MWI to this registration.

On Extend MWI to all registrations.

5.1.6.6.7 Function "Call diversion" for selected key f

Function key f controls the call forwarding specified here, with which incoming calls can be forwarded to different subscribers. Four different call diversions 1 - 4 can be set. In status 0 of the function, call forwarding is inactive, calls are signaled on the device. States 1-4 are available to set different call forwarding to cellphone, colleague, etc. When the set is idle, the activation of any call forwarding is indicated by the pictogram  shown on the left in the footer of the display. If call forwarding is "Always" activated, the text "Diverted to, forwarding destination" is also displayed in reverse video in the display area.

Type: Call diversion... Selection parameter set to function type Call diversion

State:¹⁾ Selection element for setting the functional state

0 Call forwarding is inactive.

1 - 4 Call forwarding 1 - 4 is active

Text:^{[0][4]} Input parameters for the optional definition of labeling texts.

Icon:^{[0][4]} Selection parameter for the optional definition of pictograms.

LED:^{[1][4]} Selection parameter for defining the LED operating mode in states 1-4

Call diversion^{[1][4]} Open call forwarding dialog 1-4

☞ 5.1.4.1 Call diversion, optional 39

¹⁾ States whose call forwarding is all switched off are left out of the key sequence f. If only call forwarding ^[1] is active, the status sequence is 1, 0, 1, 0 etc.; if, on the other hand, two call forwardings are activated, the status sequence is 1, 2, 0, 1, 2, 0 etc. and so on.

5.1.6.6.8 **Function "Call group" for selected key f**

Function key f controls the login/logout of the registered user in a call group of the PBX. In the dialog below, enter the name of the call group.

Type: Call group. Selection parameter set to function type Call group
State: Selection element for setting the functional state
 1 User n is logged out of the call group.
 2 User n is registered with the call group.
Text: ^[1]/_[2] Input parameters for optional specification of labeling texts.
Icon: ^[1]/_[2] Selection parameter for the optional definition of pictograms.
LED: ^[2] Selection parameter for defining the LED operating mode in state 2
Name: Input parameters for specifying the name of the call group.

5.1.6.6.9 **"Contacts" function for selected key f**

Function key f activates the search for a subscriber number in the contacts (telephone book).

Type: Contacts. Selection parameter set to function type Contacts
Text: Input parameters for optionally specifying label text.
Icon: Selection parameters for defining a pictogram.
Searching: Selection parameters for specifying the sources to be searched.
 Combined Search subscribers in all contact lists.
 Local direc Search subscribers in the contacts list of the phone.
 PBX directo Search subscribers in the contacts list of the telephone system.
 Ext. direct Search subscribers in the contacts list of an external LDAP server.

5.1.6.6.10 **"Register" function for selected key f**

Function key f controls the login/logout of a registered co-user n. After switching over, the text message registered or unregistered is briefly displayed.

Type: Register.. Selection parameter set to function type Register
State: Selection element for setting the functional state
 1 Co-user n is logged off, calls to him are not signalled.
 2 Co-user n is registered, calls to him are signalled.
Text: ^[1]/_[2] Input parameters for optional specification of labeling texts.
Icon: ^[1]/_[2] Selection parameter for the optional definition of pictograms.
LED: ^[2] Selection parameter for defining the LED operating mode in state 2
Reg.ID: Input parameters for defining the co-user number $2 \leq n \leq 6$
Activate reg.: Selection element for specifying the additional activation option
 Off Option is switched off, activation status remains unchanged.
 On Option is switched on, co-user n also becomes the active user of the set upon registration.

5.1.6.6.11 **Activate function for selected key f**

Function key f activates a registered user. In addition to the visible change in the header of the display, in which the name/number of the newly activated user replaces that of the previously activated user,

the other user-specific settings of the new user also take effect. Depending on the chosen activation method `Act.next reg.` the user specified in `Reg.ID` or the next user registered in the user list is activated.

Type: `Activate`. Selection parameter set to function type `Activate`

Text:..... Input parameters for the optional definition of labeling texts.

Icon:..... Selection parameter for the optional definition of pictograms.

Reg.ID:..... Input parameters for defining the user number $0 \leq nz \leq 5$. In this function, the user numbers are numbered starting with 0; so enter 0 for user 1, 1 for user 2, and so on.

Disable act.reg.:..... Selection element for specifying the additional deactivation option

 Off Option is switched off, previously active user remains logged in.


 On Option is switched on, previously active user is logged out.

Act.next reg.: Selection element for specifying the activation method.

 Off Function activates the user specified in the `Reg.ID` parameter.

 On Function activates the next logged in user in the user list; the `Reg.ID` setting is irrelevant.

5.1.6.6.12 "Ringing off" function for selected key f

Function key f controls call protection on/off. Activated do-not-disturb is symbolized by the pictogram  that is shown in the display area when the device is idle.

Type: `Ringing off`. Selection parameter set to function type `Ringing off`

State: Selection element for setting the functional state

 1 Call protection is turned off

 2 Call protection is turned on

Text:^{[1][2]}..... Input parameters for optional specification of labeling texts.

Icon:^{[1][2]}..... Selection parameter for the optional definition of pictograms.

LED:^[2]..... Selection parameter for defining the LED operating mode in state 2

Do not disturb Open the following dialog to set call protection

 Action: Selection parameter for specifying the action to be taken when do-not-disturb is activated and incoming calls are received.

 Ringing off The acoustic tone signaling (ringing) is switched off

 Silence The acoustic tone signaling (ringing) and the optical signaling of the call in the display are switched off.

 Busy Like the `Silence` setting, but the phone behaves to the caller as if it were busy.

 For: Selection parameters to specify the calls for which call protection is enabled.

 Every call Call protection is to be applied to all calls.

 External calls Call protection is to be applied to external calls.

 Internal calls Call protection is to be applied to internal calls.

5.1.6.6.13 Function "Call waiting" for selected key f

Function key f controls activation/deactivation of the call waiting function, with which incoming calls can be signaled optically and acoustically when a connection is already established.

Type: `Call waiting`. Selection parameter set to function type `Call waiting`

State: Selection element for setting the functional state


- 1 Call waiting is switched off, the call is not signalled.
- 2 Call waiting is activated, the call is signaled visually and acoustically.

Text:^{[1][2]} Input parameters for optional specification of labeling texts.

Icon:^{[1][2]} Selection parameter for the optional definition of pictograms.

LED:^[2] Selection parameter for defining the LED operating mode in state 2

5.1.6.6.14 Function "display phone no" for selected key f

Function key f controls the activation/deactivation of the lock for the transmission of your own phone number for outgoing calls. The activated lock is symbolized by the pictogram  that is shown on the left in the footer of the display when the device is idle.

Type: display phone no Selection parameter set to function type display phone no

State: Selection element for setting the functional state


- 1 Lock is switched off, phone number is transmitted to the called party.
- 2 Lock is switched on, phone number is not transmitted.

Text:^{[1][2]} Input parameters for optional specification of labeling texts.

Icon:^{[1][2]} Selection parameter for the optional definition of pictograms.

LED:^[2] Selection parameter for defining the LED operating mode in state 2

5.1.6.6.15 Function "Transfer" for selected key f

Function key f transfers an incoming call to a manually entered destination without connecting to the caller in the meantime. When there is an incoming call, press the function key f. The device then asks you to enter the number of the destination and transfers the call to the destination when you confirm the entry by pressing the key .

Type: Transfer. Selection parameter set to function type Transfer

Text: Input parameters for the optional specification of a label text..

Icon: Selection parameter for the optional definition of a pictogram.

5.1.6.6.16 Redirect function for selected key f

Function key f diverts incoming calls to the destination configured in the dialog without connecting to the caller in the meantime. For incoming calls, press the function key f. The device then forwards the pending or waiting call to the configured destination.



Type: Redirect. Selection parameter set to function type Redirect

Text: Input parameters for the optional specification of a label text.

Icon: Selection parameter for the optional definition of a pictogram.

Number: Input parameters for specifying the destination phone number.

5.1.6.6.17 Function "Phone lock" for selected key f

Function key f controls the activation/deactivation of the phone lock. Before the changeover of the lock initiated by pressing the function key f takes effect, the telephone prompts you to enter the PIN, which must then be completed by pressing the key . The activated lock is symbolized by the pictogram  that is shown on the left in the footer of the display when the device is idle.

Type: Phone lock. Selection parameter set to function type Phone lock

State: Selection element for setting the functional state

1 Phone lock is off, phone can be used.
 2 Phone lock is turned on, phone cannot be used.
 Text:^{[1][2]}.....Input parameters for the optional definition of labeling texts.
 Icon:^{[1][2]}.....Selection parameter for the optional definition of pictograms.
 LED:^[2].....Selection parameter for defining the LED operating mode in state 2

5.1.6.6.18 "Headset" function for selected key f

Function key f controls enabling/disabling or switching headset operation on/off.

Type: Headset. Selection parameter set to function type Headset.
 State:Selection element for setting the function state
 1 Headset locked or turned off
 2 Headset released or powered on
 Text:^{[1][2]}.....Input parameters for the optional definition of labeling texts.
 Icon:^{[1][2]}.....Selection parameter for the optional definition of pictograms.
 LED:^[2].....Selection parameter for defining the LED operating mode in state 2
 Mode:.....Selection parameter for determining how the function works
 Enable Function controls enabling and disabling of headset operation.
 Control Function controls switching the headset conversation mode on and off if headset mode is enabled.

5.1.6.6.19 Function "Hotdesk" for selected key f

Function enables the flexible change from user 1 to a selectable co-user. To do this, press the f function key, whereupon the dialog Register opens, in which the user who is to be registered and activated is specified. By pressing the menu key Ⓢ, the selected co-user is then logged in, whose name/telephone number displaces that of the previously active user in the header of the display. The next time the function key f is pressed, the user changes in the opposite direction; the co-user's registration is deleted and user 1 becomes an active user of the phone again.

Type: Hotdesk. Selection parameter set to function type Hotdesk
 State:Selection element for setting the functional state
 1 User 1 activated
 2 Selected co-user activated
 Text:^{[1][2]}.....Input parameters for the optional definition of labeling texts.
 Icon:^{[1][2]}.....Selection parameter for the optional definition of pictograms.
 LED:^[2].....Selection parameter for defining the LED operating mode in state 2

5.1.6.6.20 Function "Create reg. " for selected key f

Function key f registers the user specified in the dialog and activates this if you set the Activate selection parameter to On.

Type: Create reg. Selection parameter set to function type Create reg.
 Text:.....Input parameters for the optional definition of labeling texts.
 Icon:.....Selection parameter for the optional definition of pictograms.
 Registration.....Open the dialog below to define the user registration
 Protocol:..... Selection parameter for specifying the protocol to be used

H323... Protocol H323, see also 5.1.6.3 on page 45

Name: Input parameters for optionally specifying the user name.

Number: Input parameter for optionally specifying the user number.

Passw.: Input parameter for optional setting of a user password.

VoIP gatekeeper: Open the dialog of the same name to optionally define the gatekeeper.

☞ 5.1.6.3.1 Setting the VoIP Gatekeeper 46

Activate: Selection element for specifying the additional activation option.

Off Previously active user stays active.

On New registered user becomes active user.

5.1.6.6.21 Function "Delete reg. " for selected key f

Function key f deletes the current co-user registration and then activates user 1, whose name/number displaces that of the deleted co-user in the header of the display and whose user-specific settings become effective.

Type: Delete reg. Selection parameter set to function type Delete reg.

Text: Input parameters for the optional definition of label text.

Icon: Selection parameter for the optional definition of a pictogram.

5.1.6.6.22 Function "Switch user" for selected key f

Function key f causes the phone to be changed to the user defined in the dialog. In addition to the visible change in the header of the display, in which the name/number of the new user displaces that of the previous user, the other user-specific settings of the new user also take effect.

Type: Switch user. Selection parameter set to function type Switch user

Text: Input parameters for the optional definition of labeling texts.

Icon: Selection parameter for the optional definition of pictograms.

Registration: Open the dialog below to define the user registration

Protocol: Selection parameter for specifying the protocol to be used

H323... Protocol H323, see also 5.1.6.3 on page 45

Name: Input parameters for optionally specifying the user name.

Number: Input parameter for optionally specifying the user number.

Passw.: Input parameter for optional setting of a user password.

VoIP gatekeeper: Open the dialog of the same name to optionally define the gatekeeper.

☞ 5.1.6.3.1 Setting the VoIP Gatekeeper 46

Disable act.reg.: Selection element for specifying the additional deactivation option.

Off Previously active user remains logged in

On Previously active user will be logged out.

5.1.6.6.23 "Recording" function for selected key f

Function key f activates or deactivates the recording of voice data.

All definitions of how this function works can only be made in the web interface `WebIp162\Phone\User-n\Function-Keys!`

Type: Recording.. Selection parameter set to function type Recording

State: Selection element for setting the functional state

1 Recording is disabled.

Alternatively, Caller Override | Diversion Override can be defined in order to overwrite the user's default phone number - or set call diversions of the called party.

All definitions of how this function works can only be made in the web interface `WebIp162\Phone\User-n\Function-Keys!`

Type: Prep. override..Selection parameter set to function type Prep. override.

State: Selection element for setting the functional state

1 Idle state of the function.

2 Active state of the function.

Text: ^{[1][2]}..... Input parameters for the optional definition of label text.

Icon: ^{[1][2]}..... Selection parameter for the optional definition of a pictogram.

LED: ^[2]..... Selection parameter for defining the LED operating mode in state 2.

5.1.6.6.27 Function "Toggle" for selected key f

With an existing voice connection, function key f causes two DTMF sequences to be output, which are linked to statuses 1 and 2 of the function. A configurable selection parameter determines whether the output of DTMF sequences 1 and 2 changes when the function key f is pressed or whether sequence 1 is output when the function key f is pressed and sequence 2 when the key is released. The purpose of the function is, for example, to set up a PushToTalk function for the connected device whose behavior can be controlled by DTMF sequences.

The definition of the DTMF sequences and the selection of the working method can only be carried out in the web interface `WebIp162\Phone\User-n\Function-Keys!`

Type: Toggle..Selection parameter set to function type Toggle

State: Selection element for setting the functional state

1 Output DTMF Sequence 1 by pressing - or pressing the Fkts. key f.


2 Output DTMF Sequence 2 with pressing - or releasing the Fkts key f.

Text: ^{[1][2]}..... Input parameters for the optional definition of label text.

Icon: ^{[1][2]}..... Selection parameter for the optional definition of a pictogram.

LED: ^[2]..... Selection parameter for defining the LED operating mode in state 2.

5.1.6.6.28 Function "Message" for selected key f

Function key f causes the text message or text message template defined here to be transferred to the output control in order to be able to carry out manual changes/additions to the address field `For` and the nameless message itself. The message is sent to the recipient by pressing the menu key .

Type: Message..Selection parameter set to function type Message

Text: Input parameters for the optional definition of label text.

Icon: Selection parameter for the optional definition of a pictogram.

Message..... Open the dialog below to specify the text message or the text message template.

For: Input parameters for the optional entry of the phone number of the subscriber to whom the message is to be sent.

..... Nameless input parameter for the optional input of the message text.

5.1.6.6.29 "Spare" function for selected key f

Reserved for future expansions.

5.1.7 Main menu – Administration

This menu contains the administrative information about the network and the registration of the IP phone.

5.1.7.1 Information

In this menu you can find the serial number, the firmware version number and the boot code version number.

5.1.7.2 IP settings

This menu contains information on integration into the IP network. These are only of interest to the administrator and must not be changed by the operator. Select "Network" from the administration menu.

It is possible to set the following IP properties via this menu:

Menu item	Settings
DHCP Mode	Client Server from
IP Addresses	Interface IP Address IP address mask Standard IP Gateway
VLAN	VLAN header off VLAN header on · VLAN Priority · VLAN Identifier

5.1.7.3 Registration

The Registration menu contains information on registering at the Gatekeeper.

These are only of interest to the administrator and must not be changed by the operator. Select "Registration" from the administration menu.

The following information can be found:

Menu item	Settings
Protocol	H323, SIP, TSIP, SIPS
Name	Username
Number	his phone number
Passw.	if set
VoIP gatekeeper	Gatekeeper Name, Gatekeeper IP Address
Options	regional PBX tones

5.1.7.4 STUN

In the "STUN" menu, presets for STUN and TURN Server can be configured. These are only of interest to the administrator and must not be changed by the operator.
User-specific settings must be entered 5.1.6.3

5.1.7.5 Reset configuration

It is possible to restore the delivery state of the device.

All settings made on the device will be lost. Select "Reset Configuration" from the administration menu. The security query is made as to whether the device should be reset to its delivery state. You can restore the factory state ("yes"), with all changes lost. You can also leave the menu instead ("no").

When you have restored the factory state, the device will restart and all data and settings will be lost.

... ..

6 Specifications

			Min	Type	Max	Unit
Ethernet ports LAN 1 & LAN 2						
LAN1	VoIP		RJ45 Port 1000 BASE-T with PoE			
LAN2	PC		RJ45 Port 1000 BASE-T			
1) Connection LAN1, PoE (Power over Ethernet) according to IEEE 802.3af						
V _{PoE}	Supply Voltage		37,0		57,0	V _{DC}
I _{PoE}	Supply Stream				350	mA _{DC}
P _{PoE}	Versorgungsleistung	Class 0			12,95	W
Connection terminals X100, X700, X702 & X703						
A _{WireR}	Clamping capacity conductor cross-section rigid		0,2		4,0	mm ²
A _{WireF}	Clamping capacity conductor cross-section flexible		0,2		2,5	mm ²
I _{Isol}	Non isolated wire length			10		mm
X100.5 – X100.6 Relay Onboard						
V _{switch}	Switching voltage	AC			30	V _{AC}
		DC			60	V _{DC}
3) I _{switch}	Switching current	AC			1,0	A _{AC}
		DC			1,0	A _{DC}
S _{switch}	Switching apparent power	AC			15	VA
P _{switch}	Switching power	DC			15	W
1) 2) X100.7 – X100.8 External power supply DC Power						
V _{DC Power}	Supply voltage		22,8		53,0	V _{DC}
I _{DC Power}	Supply current				650	mA _{DC}
P _{DC Power}	Supply power				15,00	W
4) X702.1 – X702.3 Relay-1 & X703.1 – X703.3 Relay-2						
V _{switch}	Switching voltage	AC			250	V _{AC}
		DC			230	V _{DC}
3) I _{switch}	Switching current	AC			5,0	A _{AC}
		DC			5,0	A _{DC}
S _{switch}	Switching apparent power	AC@ V _{switch} > 35 VAC			15	VA
P _{switch}	Switching power	AC@ V _{switch} ≤ 35 VAC			100	VA
		DC@ V _{switch} > 50 VDC			15	W
		DC@ V _{switch} ≤ 50 VDC			100	W
5) X700.1 – X700. 5 inputs Input-1 – Input-3						
V _{InpOpen}	Open circuit voltage		22,8		57,0	V _{DC}
I _{InpShort}	Short circuit current				10,0	mA _{DC}
Case						
Material			Glass fibre reinforced polyester			
I _{HxWxD}	Dimension	Height		293		mm
		Width		227		mm
		Depth		135		mm
m	Weight			~5.0		kg
h	Operating height				2000	m
Operational situation			Wall			

Ambient conditions					
Degree of protection Impact resistance Humidity		IP 66 according to EN/IEC 60529 IK 09 according to EN/IEC 50102 5% - 85% RH (non-condensing, non-icing)			
T _A	Operating Temperature	-40		+70	°C
T _T / T _S	Transport and storage temperature	-40		+70	°C
Menu					
T _L	Minimum duration of actuation of secondary key function	0,5			s
T _{SHIFT_TO}	Time limit key secondary function Shift			5,0	s
T _{D2A}	Minimum operation time mode change Digit2Alpha	2,0			s

- 1) Only ES1 and PS1 classified power supplies in accordance with EN 62368-1 may be used to supply the telephone. In addition, only one power supply may feed the telephone. Use either LAN1 or the X100.7-X100.8 ports.
- 2) The DC power supply shall be earth-free.
- 3) The permissible load currents of the output contacts are voltage-dependent. Calculate their maximum values as indicated below by forming the quotient of switching voltage-dependent switching power $P_{\text{switch}}(V_{\text{switch}})$ and switching voltage V_{switch} . In addition, the result must not exceed the specified maximum value of the switching current I_{switch} .

AC: $I_{\text{LoadMax}} = S_{\text{switch}}(V_{\text{switch}}) / V_{\text{switch}} = 15 \text{ VA} / 48 \text{ V} = 0.312 \text{ A}$

DC: $I_{\text{LoadMax}} = P_{\text{switch}}(V_{\text{switch}}) / V_{\text{switch}} = 100 \text{ W} / 48 \text{ V} = 2.08 \text{ A}$

$I_{\text{LoadMax}} \leq I_{\text{switchMax}}!$

$I_{\text{LoadMax}} \leq I_{\text{switchMax}}!$
- 4) The circuits of the switching contacts of both relays shall not be connected to different external conductors of an AC network.
- 5) The three inputs are active and may only be connected with potential-free contacts.

7 Warnings and safety instructions

This equipment is a weatherproof Voice-over-IP phone, especially for operation in harsh industrial environments.

The following warnings and safety instructions must be observed:

- The telephone is designed in protection class II and may only be connected and operated at the prescribed voltages.
- The connection and installation of the device must be carried out by trained personnel in accordance with the prescribed installation regulations.
- Care must be taken to ensure proper connection. The connection cables must be laid in such a way that there is no risk of tripping.
- It is important to make sure that the phone, the connection line, etc. are not damaged. In the damaged state, operating the phone is not allowed.
- If no cable is plugged into the side connection socket, the cover cap necessary for the tightness of the housing must be plugged into the side connection beech.
- The telephone may only be operated under the specified environmental conditions (see Chapter 6 Specifications on page 62). Adverse environmental conditions, such as ambient temperatures that are too high or too low, are not permitted because this promotes the failure of electronic components.
- The telephone may only be operated under the specified electrical conditions (see Chapter 6 Specifications on page 62). In particular, the warnings stored there must be observed. Failure to comply with electrical conditions and warnings can lead to property damage and personal injury!
- When operating the telephone, the legal and commercial regulations, accident prevention regulations, as well as electrical regulations must be observed.
- In the case of repairs, only original spare parts are permitted, which must be changed professionally. Other replacement parts may cause damage and the warranty is void.
- Before repairing or replacing the phone, it must be disconnected from all power sources. If maintenance or repair under voltage is unavoidable, this may only be done by qualified personnel.
- When the phone is open, no dust must enter the device.
- Repair work may only be carried out by the manufacturer himself, or by a person commissioned by the manufacturer, when a new piece test is carried out, for the device. This also applies to the replacement of the cable ends installed by the manufacturer, depending on the type and design of the telephone.
- For repairs, only original spare parts are permitted. Other replacement parts can cause property damage.
- The operation of this device or device can cause radio interference in the living area.
- Changes to the product that serve technical progress are also possible without prior notice.



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