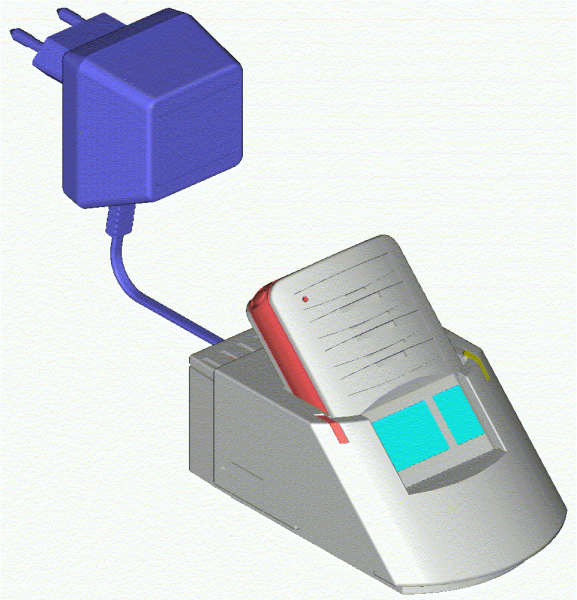
Programming Manual

RE629



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Contents

1. General information

The Windows programming software PSW629 was developed to program the new RE629 generation of pagers. This software is not downward-compatible with the previous RE 429xx pager generation. The software recognizes RS232 Ports and USB-Serial converters.
The PGM 300/429 programming adapter (now SGA Professional) has not been changed and can be used together with this software. The PSW629 software and Programming Guide can be obtained separately or in a complete programming set:

Programming software PSW629 **SW-Art.No. 0991 845**
Scope of delivery:
- CD with PSW629 programming software SW-Art.No. 0991 845
- The RE629 Programming Guide is available as a PDF file on the CD.

Programming set for RE629 **SW-Art.No. 0951 490**
Scope of delivery:
- SGA Professional programming adapter SW-Art.No. 0951 450
- RS-232 connection cable SW-Art.No. 0240 130
- CD with PSW629 programming software SW-Art.No. 0991 845

Option USB-Serial Converter **SW-Art. Nr. 0240 135**
Scope of delivery:
- Converter Cable RS232 9-pol - USB, CD-ROM with Driver

2. Programming software PSW629

Features:
- Read, change and program RE629 functions
- Read-out of software and hardware configurations
- Archiving of device configurations and programming parameters on your PC
- Start test functions
- Manage receiver passwords

This Document uses colour to highlight passages that only apply to 2 Tone or 5/6 Tone devices. Anything highlighted in RED concerns 5 Tone receivers only, anything concerning 2-Tone receivers is marked GREEN.

3. Programming station setup

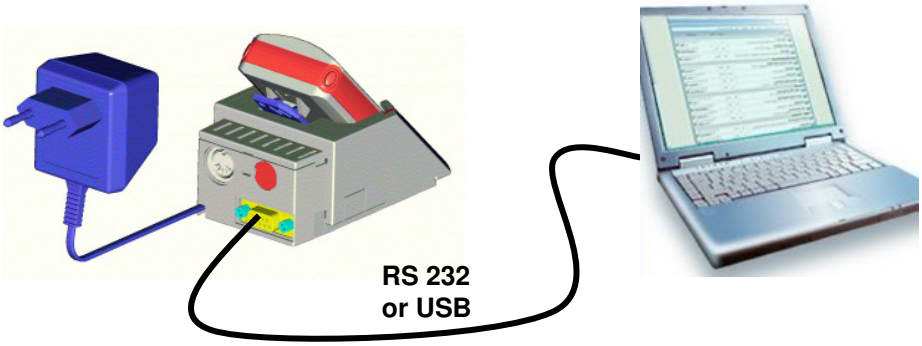
The following components must be available and installed in order to program:

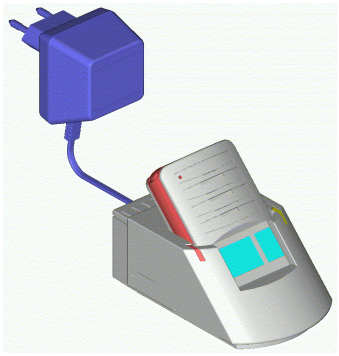
IBM compatible PC:
- Pentium II (min 200MHz)
- 32MByte RAM
- RS232 interface or USB

Mouse: required

Supported operating systems:
- Windows 98SE
- Windows ME
- Windows NT
- Windows 2000
- Windows XP

Recommanded:
- Windows 2000
- Windows XP





4. Programming notes

- Programming can be performed with or without a power source connected to the RE629. **It is recommended to program with a battery!**
- Connect the power supply of the PG programming adapter to a 230V mains socket.
- The amber, right hand, LED on the programmer indicates that the programmer is powered on.
- To install the software, place the CD in its drive and follow the instructions. If you receive an error message, repeat the installation. If necessary, deactivate anti-virus software.
- Specify the PC port used in the programming software.
- The programming operation is indicated with a flashing green LED (left hand side). When the programming operation is completed, the pager resets and a beep can be heard. When reading device data with "READ" the LED flashes, and the pager resets too. As long as the pager is in the programming status, it shall under no circumstances be removed from the programming adapter. (If necessary, send a reset command). A short interruption can already lead to EPROM corruption. Therefore please check that the contacts on both pager and programming adapter are clean before programming.

Erroneous data packages lead to an interruption in the programming procedures and you will have to re-write the configuration once more.

SWISSPHONE is not liable for incorrect programs, for programs that violate the regulations of the BOS or any other network operators or for any damage resulting from such programs.

5. Installation

Place the CD in its drive and follow the instructions. If need be, start the SETUP.EXE file. You can start the software by double-clicking on the file name PSW629.EXE, or you can start it directly using the desktop icon.

For the use of the normal version of the PSW it is not necessary to order a code!

The PSW629 normal version allows to implement all network-relevant programming functions. These functions permit you to program pagers or store configuration the data on a media or print it out. However, it is not possible to change any service settings.

Service-Version:
The service version [Serv629.exe] is only available on a separate CD and must be enabled by registration). To receive this registration authorisation, you need to attend a service course or a permission from Swissphone. After start-up, the software generates a CODE unique to your computer which is displayed on the screen as "Modifier".

Transmit this code to SWISSPHONE via E-mail

info@swissphone.com or
Fax +41 (0) 44 786 7771

You will receive the serial number and password for your programming PC from SWISSPHONE. Enter these in the appropriate fields. The service version is subsequently enabled.

You can start the service version after enabling it by double-clicking on the file "Serv629.exe", or you can start it directly by double-clicking on the shortcut on the Windows desktop.

Remark: Future upgrades will not require the input of a password on this computer. However, you will need a new password to install the software on another computer.

6. First Steps

6.1. Menu bar

In the menu bar, there are main menus with submenus like those conventionally used in Windows applications.

File

New	Opens standard file RE629 (depending on type)
Open...	Opens the file
Save...	Saves the current settings to the PC
Save as...	Saves the current settings under a new name on the PC
Print Settings…	Configure the printer and select if addresses, options or both are printed
Print	Prints the active *.629 file
Exit	Exit the program

The lower section displays the last files used including their paths. The files can be loaded directly from there.

Pager

Read	Read the data from the pager
Reset	Resets the pager
Write	Write the data to the pager

Options

Language	Selection: German, English, French, Italian
Com	Select the correct port
Show Info Messages	Show info text
Ton Systems	Preconfiguration of Tone lengths and Frequencies (5/6 Tone only)

Windows

Tile	Arrange open windows side-by-side
Cascade	Make all windows visible
Arrange Icons	Arrange minimised windows

Help

About	Information about the manufacturer and version

6.2. Toolbar

The symbols on the toolbar are for the following functions:

New 5/6-Tone	Create new pager configuration (for either 2 or 5/6 Tone devices)	
	Open File	Ctrl + O
	Save File	Ctrl + S
	Print File	Ctrl + P
	Read Data	Ctrl + R
	Reset Pager	
	Write Data	Ctrl + W
	Activate Service Menu	
	Password	Set and change a password
	Set language	
	Port settings	

6.3. Considerations before setting up a program

The RE629 is available in different model variants: Tone, Voice and Memo, Single-channel, Multi-channel and so on. Each of these pagers is available as either 2-tone or 5/6-tone devices. Please understand that 2 / 5 Tone is a Manufacturing option and the receiver has to be ordered for the correct system. A later change of the tone system is not possible.

The models Voice and Memo have the option to use profiles. The conventional, switchable addresses used with the RE429 are no longer supported. In idle state, the active profile is always recognisable. This is to ensure that the receiver is not set to the wrong channel or configuration unintentionally. Additional profiles can be programmed at a later date without deleting the existing programming.

The memory capacity is adequate for 32 addresses (when a control call is uses 31 + control call address). This makes it possible to store complete organisational structures "in stock" in the memory. Only the currently required addresses are activated. Thereby change can be effected with minimal effort and unbureaucratically.

You can use profiles to change the alarm tones.
To do this, create a duplicate of the desired address and activate this in the new profile. Enter a different alarm tone in this profile. After the user switches over to the new profile, the addresses remain active, but the alarm tone is different. (e.g. without a tone)

6.4. Structure of the Software

The software is structured in four "Tabs" to switch between tabs, simply click with your mouse on the desired tab at the bottom of the screen. These tabs are available:

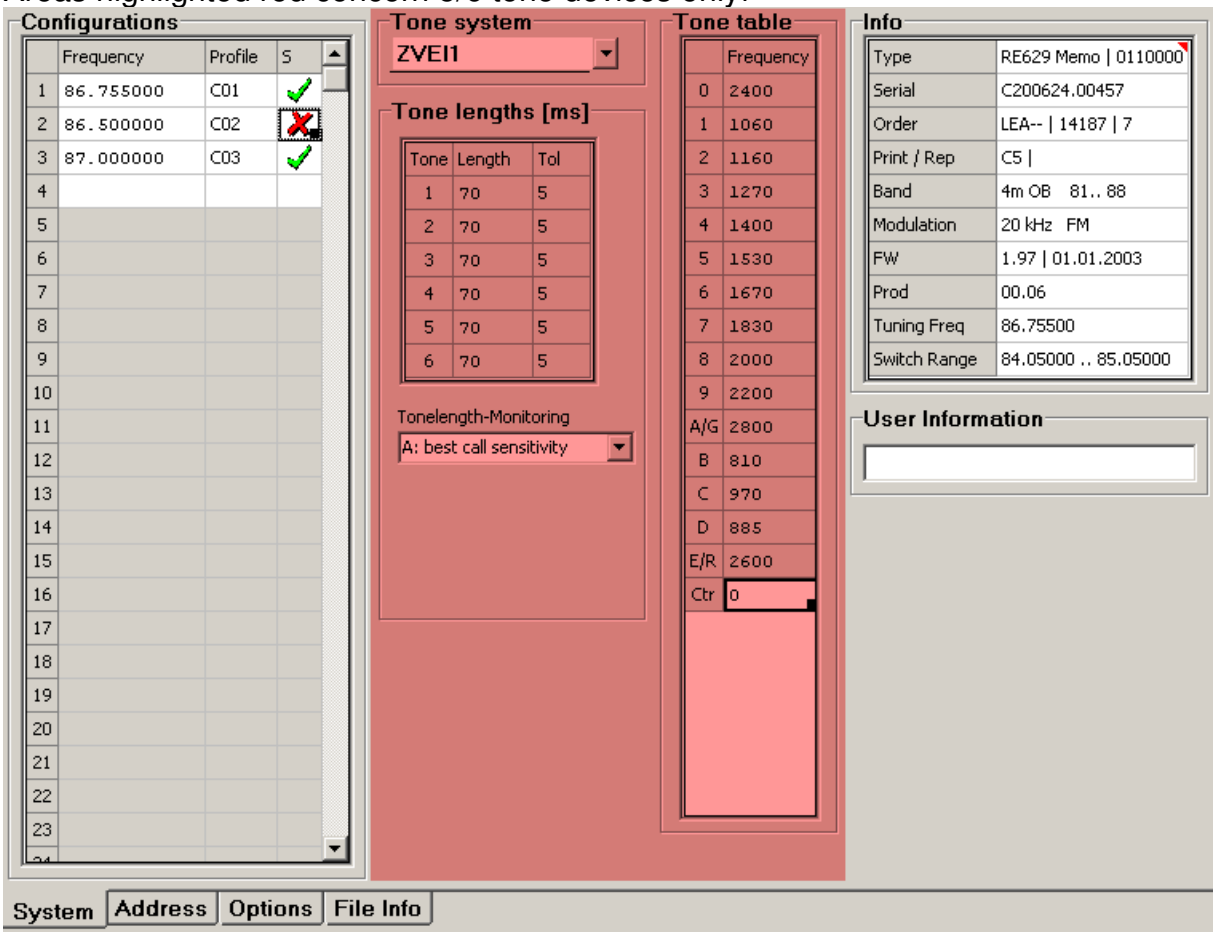
System: profiles / channels and tone system parameters
Address: enter and configure addresses
Options: define how the receiver can be operated
File Info: enter information regarding the file

Sometimes the "tabs" are also called "sheets" or "registers".

7. Configuring A Receiver

7.1. Systems Tab

Areas highlighted red concern 5/6 tone devices only!



7.1.1. Configurations

50 configurations are available. The user can switch/select any of the configurations on the pager. For the single channel receiver, the frequency is always the same, the configurations serve as profiles. A multiple channel device can store up to 50 channels, each with its accompanying settings. To use profiles with a multi channel unit, simply enter the same frequency twice with a different name (e.g. Ch1A, CH1b).

Frequency	*Enter the receiver frequency of the device here. With one-channel devices, enter the same frequency for each configuration. When you hit "Enter" after entering a "Mark" the Frequency will be copied into the next configuration. With multi channel devices, please pay attention to the switching range.*
Profile	*The characters entered here will be displayed when the pager is ready to receive. This serves too remind the user of the current setting.* For single channel units which do not use profiles it is best to leave this empty.

S	Frequencies that are checked in this column, will be scanned (form top to bottom).

Tone System

Only applies to 5/6 tone receivers!
After selection of a tone system, the tables display the tone names (1…G), frequencies and tone lengths along with their tolerances. The tone lengths and the tolerances can be changed, if necessary (Tone System "free").
Please weigh the consequences seriously before you change any settings here.

The following applies to BOS radio networks: ZVEI I

Tone length	The parameters of the receiver are entered here. The length of every tone can be individually set. The same applies to the tolerances.
Tone Table	The frequencies of the tones can be entered here. There are 16 fields available.
Tonelength-Monitoring	Standard A: Highest sensitivity If no net-standard transmission is used or to reach a higher reliability the selection B to D can be used.

7.1.2. Info

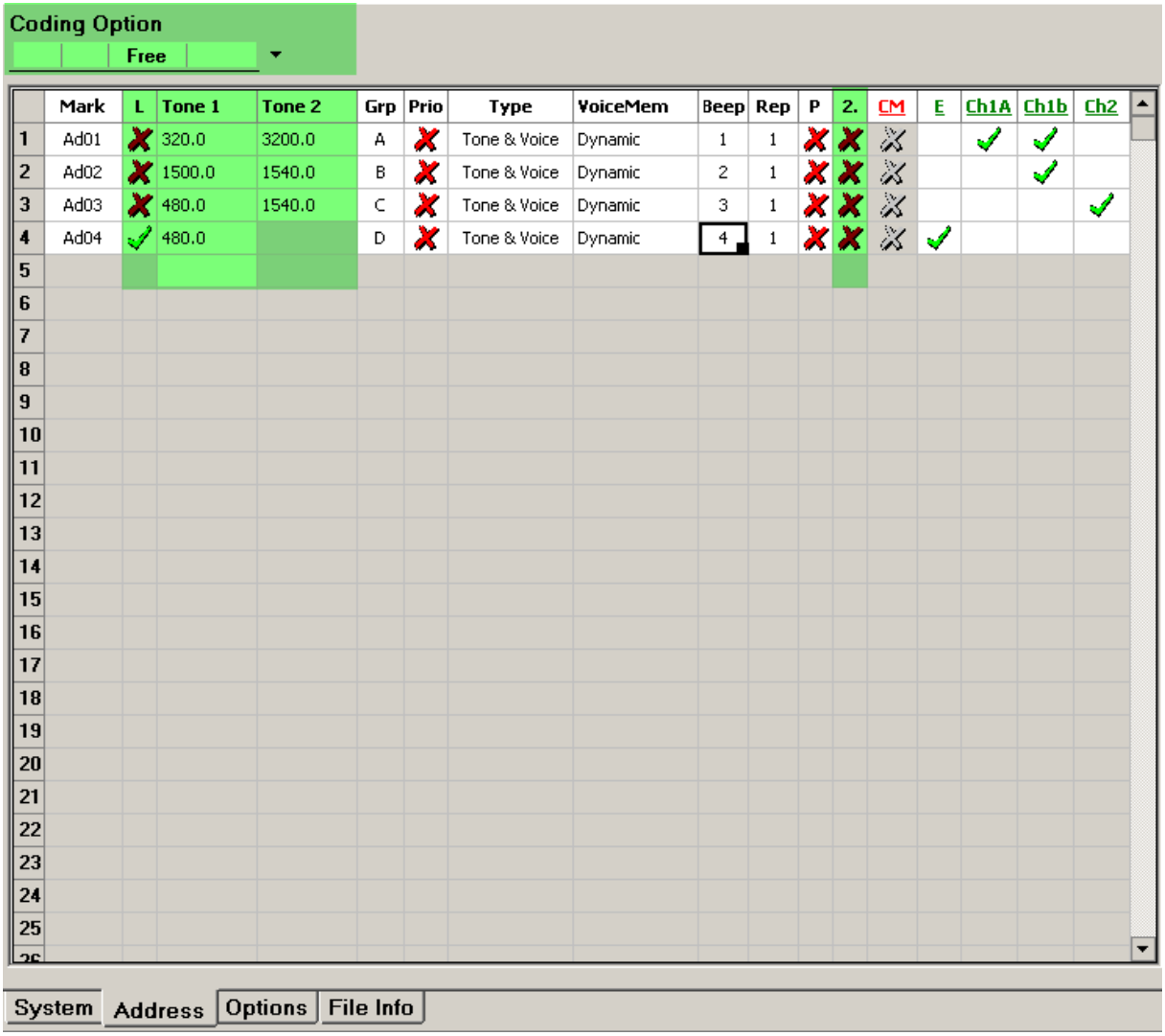
After read-out of a receiver, the relevant data is available here:

Type	Model version
Serial	Serial number
Order	Sequence number of the customer order
Print / Rep	Print and service information
Band	Mechanical tuning range
Modulation	Channel spacing: (10/12.5; 20; 25 kHz) Demodulation: (FM; PM)
FW	Version of the firmware
Prod	Sequence number of the production lot
Tuning Freq	Tuning frequency
Switch Range	Switch range

Remark: The contents of these fields can not be modified.

7.2. Address Tab

In the tab "Address", the settings for the address may be defined. This also includes the alarm type.
If you move the mouse pointer briefly over a field, a small help text is displayed.
Begin each new line with the entry of the call address (Tone 1, Tone 2).



	Mark	L	Tone 1	Tone 2	Grp	Prio	Type	VoiceMem	Beep	Rep	P	2.	CM	E	Ch1A	Ch1b	Ch2
1	Ad01	✗	320.0	3200.0	A	✗	Tone & Voice	Dynamic	1	1	✗	✗	✗		✓	✓	
2	Ad02	✗	1500.0	1540.0	B	✗	Tone & Voice	Dynamic	2	1	✗	✗	✗			✓	
3	Ad03	✗	480.0	1540.0	C	✗	Tone & Voice	Dynamic	3	1	✗	✗	✗				✓
4	Ad04	✓	480.0		D	✗	Tone & Voice	Dynamic	4	1	✗	✗	✗	✓			
5																	
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Address sheet for 2-Tone receivers (anything concerning only 2-Tone is GREEN)

	Mark	Code	Grp	Prio	Type	VoiceMem	Beep	Rep	P	CM	E	Ch1A	Ch1b	Ch2
1	A377	5137R	A	✗	Tone & Voice	Dynamic	1	2	✗	✓		✓	✓	
2	A372	51372	B	✗	Tone & Voice	Dynamic	2	2	✗	✓			✓	
3	A373	51373	C	✗	Tone & Voice	Dynamic	3	2	✗	✓				✓
4	A370	51370	D	✗	Tone & Voice	Dynamic	4	2	✗	✗	✓			

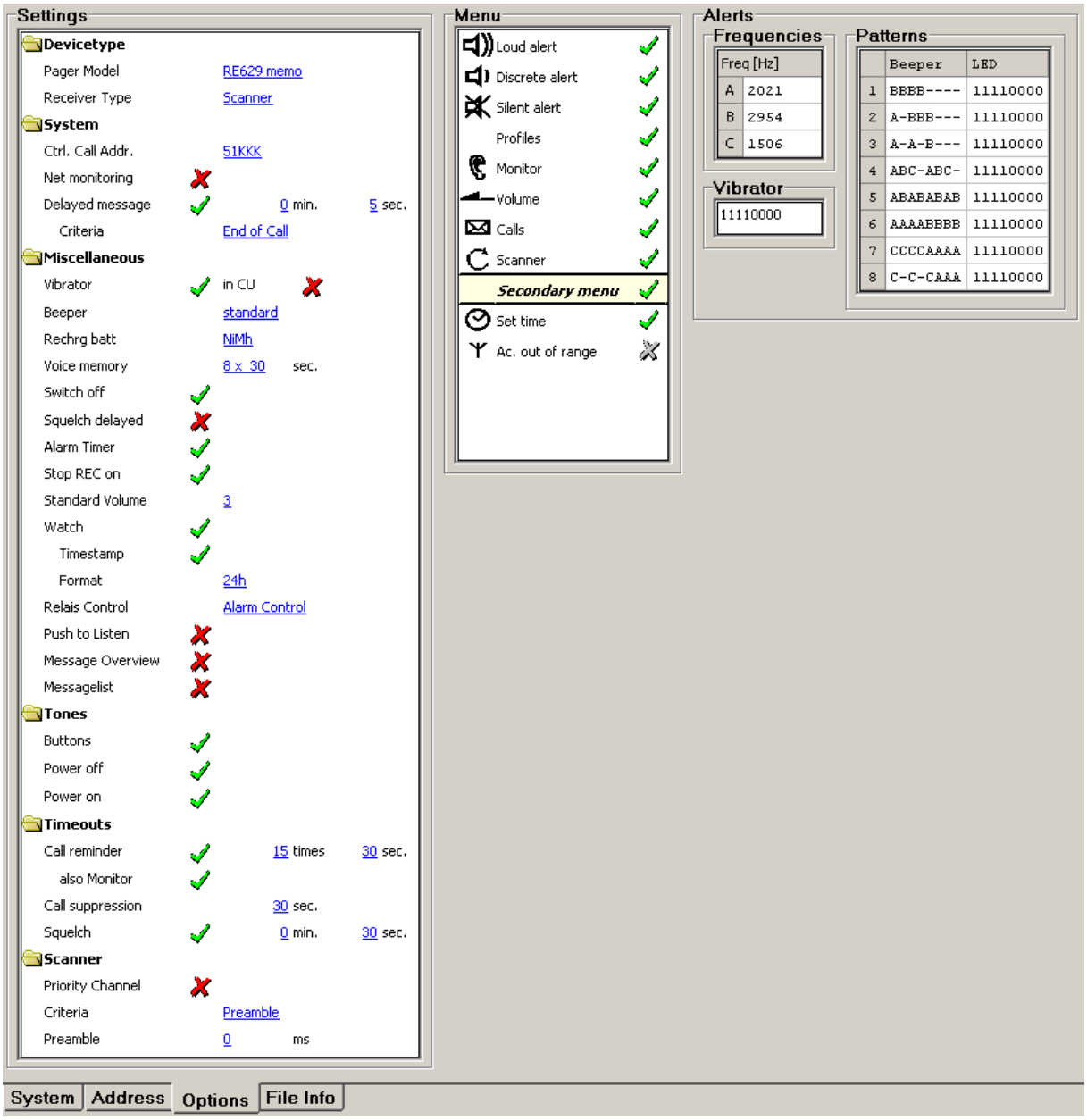
Address sheet for 5/6 Tone receivers (anything specific to 5/6 Tone is RED)

Mark	The designation entered here will be shown in the display of the pager when a call is alerted or retrieved. There are several characters from which to choose from.
L	Longtone: ☒ No: This address has 2 tones. ☑ Yes: This address has one long tone.
Tone 1	Tone 1 of address. Enter the tone frequency in hertz.
Tone 2	Tone 2 of address. Enter the tone frequency in hertz.
Code	For 5/6 Tone receivers start here by entering the address
Grp	Associates the call indicator groups ▶ A, B, C, D (as viewed from the top of the display). These blink when an address has been sent an alarm and remain visible until the call is acknowledged.
Prio	☒ No: The pager's settings control the alarm setting associated with the address (Loud; Quiet; Silent). ☑ Yes: This address will always emit a loud alarm.
Type	Type of alarm used: Tone. Alarm tone, no voice message .Tone & Voice. Alarm tone, then voice message .Voice. No wake tone, but voice message output immediately *The default duration of the wake tone signal is 5 seconds. The duration can be changed to a value from 1 to 30 seconds in "Rep".*
VoiceMem	Only for pagers "Memo": For every address to fix if the messages are: - never recorded "none" - recorded on a reserved memory "fix" - recorded on the next free open memory "dynamic"
Beep	An acoustic alarm melody is used to alert this address. Enter in the number here. Compose the acoustic alarm melody in Options \ Alarming.
Rep	The acoustic alarm melody of this address is repeated. Enter in here the number of times the acoustic alarm melody is to be repeated. The duration of one cycle is approx. 1 second.
P	Pause: between the melody's repetition cycles. ☒ No: without pause ☑ Yes: with pauses

2.	The alarm signal continues to be emitted as long as the 2nd tone (or the long tone) is detected.
CM	The Charger's Mask (CM) defines the behaviour of the pager when in the charging unit. If set to "Switched OFF" (**CM**, red), then the behaviour of the pager is the same whether it is in the charging unit or not. If set to "Switched ON" mode (**CM**, green), then the following behaviour options are available: No: The pager will not issue alarms for this address when in the charger. Yes: The pager will issue alarms for this address when in the charger as per its settings. Loud: The pager always issues a LOUD alert when in the charger even if the pager setting is QUIET.
E	The user can select between pre-set profiles. In addition to this selection, the Extra profile can be switched ON/OFF at any time. Use this columns to e.g. organise a standby service at irregular intervals. *Attention: TR-BOS will not allow switching of addresses.*
ChXX	Ch1A etc. are just examples of a profile names. The names are assigned in System/Configuration, in the column "Profile". The addresses that are desired may be activated in each of the profiles. The user can switch between profiles on the pager. If a profile is assigned a frequency which is different from the current operational frequency, the receiver will switch to the new frequency when the profile is changed (on the receiver) This applies only to multi channel units! If no profiles are activated (all names are red), then all defined addresses are active. *Attention: TR-BOS will not allow switching of addresses.*
Coding Option	On 2 Tone devices this allows you to use simpler entry forms, such as "A-B, Long A".

7.3. Options Tab

In the tab sheet Options, define the user controls and general settings of your receiver.



7.3.1. Settings Pager Model

You can find your Pager's model in the "System" Tab, Info

Pager Model	Tone: The pager works as a "Tone" Model, even if it actually is a model that supports features of a higher model Eco: The pager works as a "ECO" Model, even if it actually is a model that supports features of a higher model

	Voice: The pager works as a "Voice" Model, if the hardware / firmware is equipped as necessary. But will not work as a higher model, even if the hardware / firmware would support it. Memo:The pager works as a "Memo" model, if the hardware / firmware is equipped as necessary
Receiver Type	Single Channel: The receiver can be programmed to one frequency in the range of +/- 500 kHz form the tuning frequency. A single channel device can not b programmed to behave as multi channel unit. Multi Channel: The receiver can be programmed to up to 50 frequencies and will receive on the frequency that is associated with the currently active configuration. Scanner: The receiver is able to scan through multiple channels sequentially. The network has to send out a scan criteria (long first tone or carrier) to ensure that all alerts can be detected. A criteria must be sent for at least 125ms per scanned channel.

7.3.2. Settings System

Ctrl. Call Addr.	To use "Group Calls" please add K's after the tonest hat are identical. Example: 513KK
Net monitoring	There are various options for the receiver to recognise the radio network. The basic functionality is set here: ✗ No: Network detection is switched off. ✓ Yes: Network detection is switched on. Other settings can be input. If no monitoring functions are activated, only the pager's own addresses are accepted for network detection.
Carrier	✗ No: Carrier detection is switched off. ✓ Yes: detecting a carrier is considered, "Network OK"
Control Call	✗ No: Net monitoring does not us a control call. ✓ Yes: A specific address must be cyclically received in order for a radio network to be accepted as the "home network". The call address is entered like described above by " Ctrl. Call Addr"
Control tone	A specific tone must be cyclically received in order for a radio network to be recognised as the "home network" (pilot tone).
Warning	When a gap in radio network communication occurs, an antenna symbol ⅄ appears in the display as a first warning. The time delay between network detection and warning can

	be entered in the field to the right.
Alert	If communication with the network is still absent after a warning has been issued, then an alarm is triggered and a beep tone is sounded. The time delay between warning and alarm can be entered in the field to the right.
Inverted Segment	Only for "Voice, Memo": ✗ No: The field strength symbol is displayed if there is "no Network" ✓ Yes: The field strength symbol is displayed if a network was detected
Chrg. Unit Alert	✗ No: receiver will not issue "No Network Alerts" if inside the charger ✓ Yes: receiver alerts normally even in the charger
Alert Repetition	✗ No: The alarms as set by "Alert" are only once signalized. ✓ Yes: The alarms as set by "Alert" are repeted.
Accustic Alert	✗ No: Accustic alerts are never signalized ✓ Yes: All alarms as set in the pager are signalized
Delayed Message	✗ No: The message is transmitted without delay ✓ Yes: The message is transmitted with the criterias: Control Call (recommanded) Carrier frequency End of call (addresses have to start identical) Time as set above

7.3.3. Settings Tone Decoder

Applies to 2 Tone only

Timing	Standard: for address tone decoding suited to most networks. Fast: for address tone decoding suited to fast networks.

7.3.4. Miscellaneous

Vibrator	✗ No: The vibrator is never operative. ✓ Yes: The vibrator functions in accordance with the following settings:

	✗ No: It functions, but not in the charging unit ✓ Yes: It functions in the charging unit as well
Beeper	Standard: The duration of one cycle is approx. 1 second. Fast: The duration of one cycle is approx. 0.5 seconds.
Rechrg batt	Choose if a nickel cadmium battery or a metal hydride battery is used
Voice Memory	Only for Memo pagers: The analogue memory can be divided in "partitions". Define the number and size of each partition. An incoming call always utilizes an entire partition.
Switch Off	✗ No: The receiver can not be switched off using the keys. (Continuous operation) ✓ Yes: The receiver can be switched off using the keys.
Squelch delayed	✗ No: The receiver is switched of directely after the message ✓ Yes: The receiver remains about ½ second longer open to receive
Alarm Timer	✗ No: The time since the message was received is not shown on the display ✓ Yes: The time since the message was received is shown on the display
Stop REC by Receipt	✗ No: It is not possible to interupt the recording ✓ Yes: The recording can be interupted
Standard Volume	Upon inserting a Battery this volume setting will be applied
Watch	✗ No: Watch and Timestamp are not active ✓ Yes: Watch is active, timestamp may be activated
Relay Control	Alarm Cont: Relay is activated for 5 Sec upon alarm AF Control: Relay is activated when speaker is active
Push to Listen	✓ Yes: In "Silent" mode the channel may be opened by pressing the right hand button after an alarm
Message overview	A graphical overview of received calls is displayed when retrieving. A call in Group A corresponds to a dash in the first column of the display. Three dashes mean 3 or more calls in one Group (A, B, C, or D)
Alert ack Voice on	✗ No: when acknowledging a call while the receiver is still beeping, the voice message will not be heard ✓ Yes: when acknowledging a call while the receiver is still beeping, the voice message will still be heard. To silence the voice message press

	"right" once more. 5 Tone devices show the same behaviour when "delayed message" is activated!

Scanner

Priority Channel.	✗: All selected channels are scanned in order ✓: The first channel is the Priority Channel. After receiving an alarm on a "non priority channel" the receiver will check the priority channel regularly. This way you will not miss any alert on the priority channel.
Criteria	Preamble: Address decoding is started after the receiver detects a valid preamble. The control tone (System-Tab -> Tonetable) is used as the preamble tone. First Tone: In case the first address tone is long enough, it may be used as scan criteria. For each channel you want to scan, the tone needs to be prolonged 125ms (250ms for two channels). Squelch: With this option, carrier detection is used as scan criteria. **Attention:** the receiver may be "locked to one channel" when a carrier is on air! If you use your receiver for alerting purposes, we strongly recommend, to use one off either "Preamble" (5-Tone only) ore "First tone" for your scan criteria.
Preamble:	Define the length of the preamble as sent by the system. (Has to be >125 times "number of channels). In case the preamble is longer than the minimum, your standby time will be increased.

7.3.5. Settings Tones

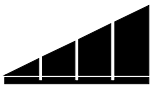
Buttons	✗	No:	No sound is emitted when pressing a key.
	✓	Yes:	A click sound is emitted when pressing a key.
Power Off	✗	No:	No warning sound is emitted.
	✓	Yes:	A warning sound is emitted when switching off.
Power On	✗	No:	No control beep is emitted.
	✓	Yes:	A control beep is emitted when switching on. (Loudspeaker OK)

7.3.6. Settings Timeouts

Call Reminder	✗	No:	A reminder will not be issued for missed alarms.
	✓	Yes:	A reminder will be issued for alarms that are not acknowledged. A warning tone is sounded.
	The number of reminders and the time interval between reminder tones can be set.		
Call Suppression	Call suppression detects alarms occurring on the same address within a specified time period. The same address will not be sent an alarm again within this time period. Call suppression starts counting the time since the last call was received.		
Squelch	A message is understood to be ended when the squelch timeout has expired. A new signal received within this time period is interpreted as a continuation of the last message. In this way, fading and radio reception gaps can be bridged. *Recommendation: 1 second* *Warning: DS squelch timeout must be supported by the radio network! (Pause between calls)*		

7.3.7. Menu

The operating functions can be activated (✓) and arranged in any desired order. To do so, use the "Drag & Drop" function of your mouse.

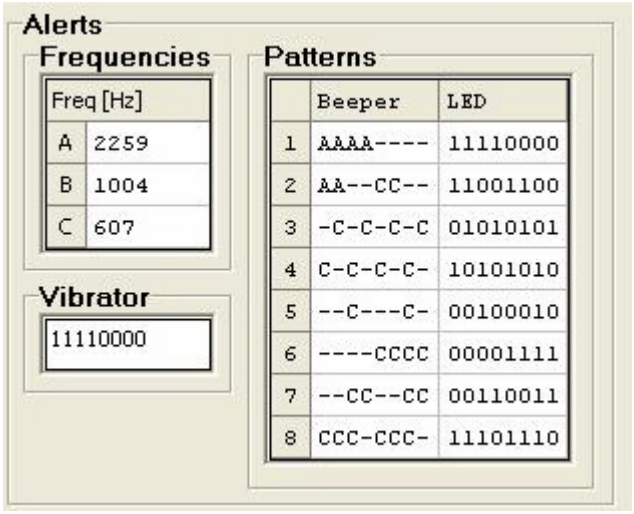
 Loud Alert	✗ No: Loud alerting can not be selected. ✓ Yes: Loud alerting can be selected. *Note: At least one of the options*  *must be activated.*
 Discrete	✗ No: Quiet alerting can not be selected. ✓ Yes: Quiet alerting can be selected. *Note: At least one of the options*  *must be activated.*
 Silent	Silent alerting: Only LED, LCD and vibrator signals are emitted. ✗ No: Silent alerting can not be selected. ✓ Yes: Silent alerting can be selected. *Note: At least one of the options*  *must be activated.*
 Monitor	Monitor mode: Every radio signal activates the loudspeaker. The alarming of addresses remains unaffected and functions as usual. ✗ No: Monitor can not be selected. ✓ Yes: Monitor can be selected. *Note: At least one of the options*  *must be activated.*
 Volume	Volume of the voice message is adjustable. ✗ No: Volume can not be adjusted. ✓ Yes: Volume can be adjusted.
 Secondary menu	Enables an artificial subdivision of the menu. Normally, the user only has access to the operation controls of the above listed functions. The functions listed below can be accessed by pressing and holding the left-hand key for more than 3 seconds. This simplifies navigation when performing extensive programming.
 Stored messages	Only for Memo pagers: ✗ No: Saved voice messages can not be listened to. ✓ Yes: Saved voice messages can be listened to.
 Act out of range	Only for Memo and Voice pagers: ✗ No: Field strength symbol if no field is received. ✓ Yes: Field strength symbol if field is received.

 Set Time	Set Time ✗ No: Time can only be set using the PSW ✓ Yes: Time may be set on the device itself
Profiles	Change the active Profile ✗ No: Profil / Channel can not be changed ✓ Ja: Profil / Channel can be changed on the device
 Scanner	Scanner only: Allows to enable/disable scanning mode on the receiver.

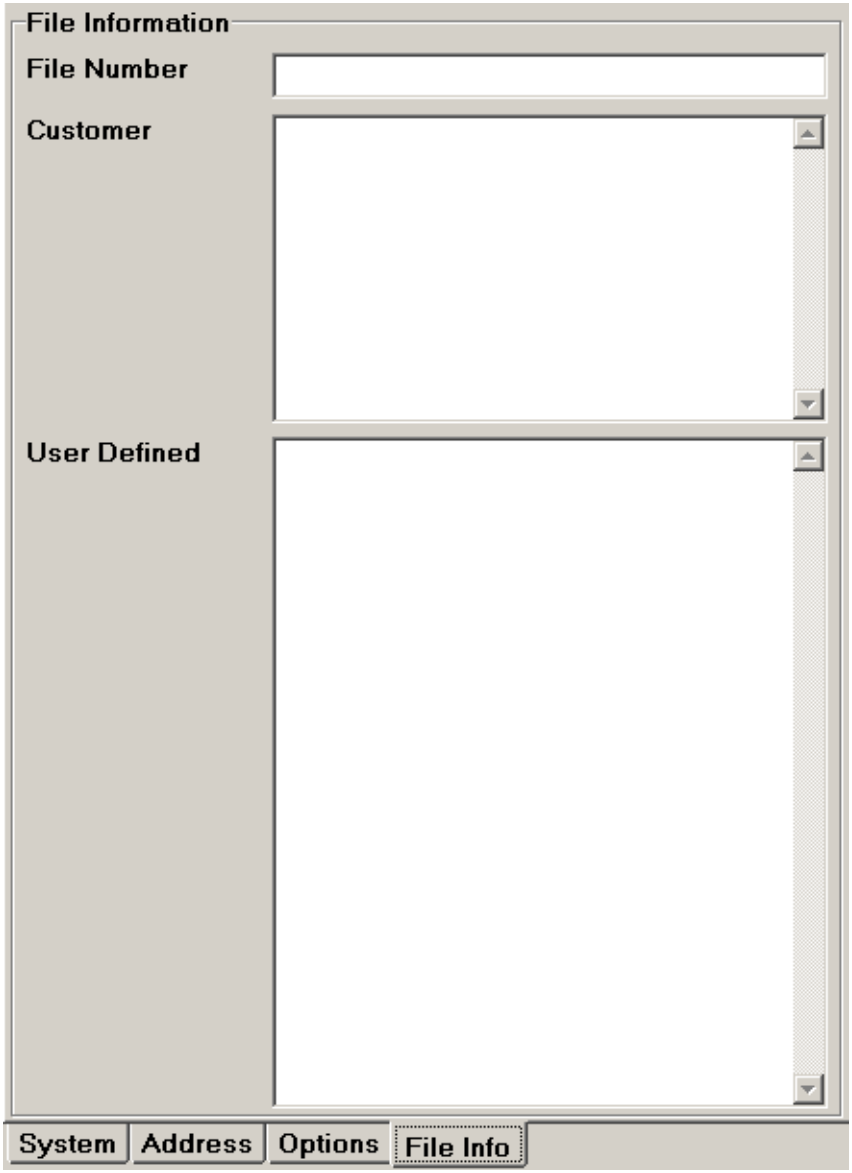
7.3.8. Alerts

You can compose the alarm "melodies" yourself. To do so, first define the 3 different pitches (A; B; C), which will form the basis for the melody pattern.
Please note that, due to the construction of the human sense of hearing, the volume and tone frequencies will be perceived differently by each person. Certain tone frequencies may be selected which will enable persons with hearing limitations to receive audible alarms.
From a technical standpoint, the loudest sound is produced at a frequency of 2300 Hz.

Frequencies	Enter in the 3 possible tone frequencies. The lower the value, the more bass the sound. The range spans between 300 and 3000 Hz.
Patterns	You may compose up to 8 tone patterns (1 in each line).
Beeper	Enter in the tones A; B; C in the sequence in which you would like them to be heard. A minus sign "-" creates a short pause.
LED	"1" switches on the red LED, "0" switches the LED off. It is helpful for the user if the LED pattern is accompanied by the tone pattern.
Vibrator	"1" switches on the vibrator, "0" switches it off. A rhythmic cycle of the vibrator is more conspicuous than continuous operation.



7.4. File Info Tab

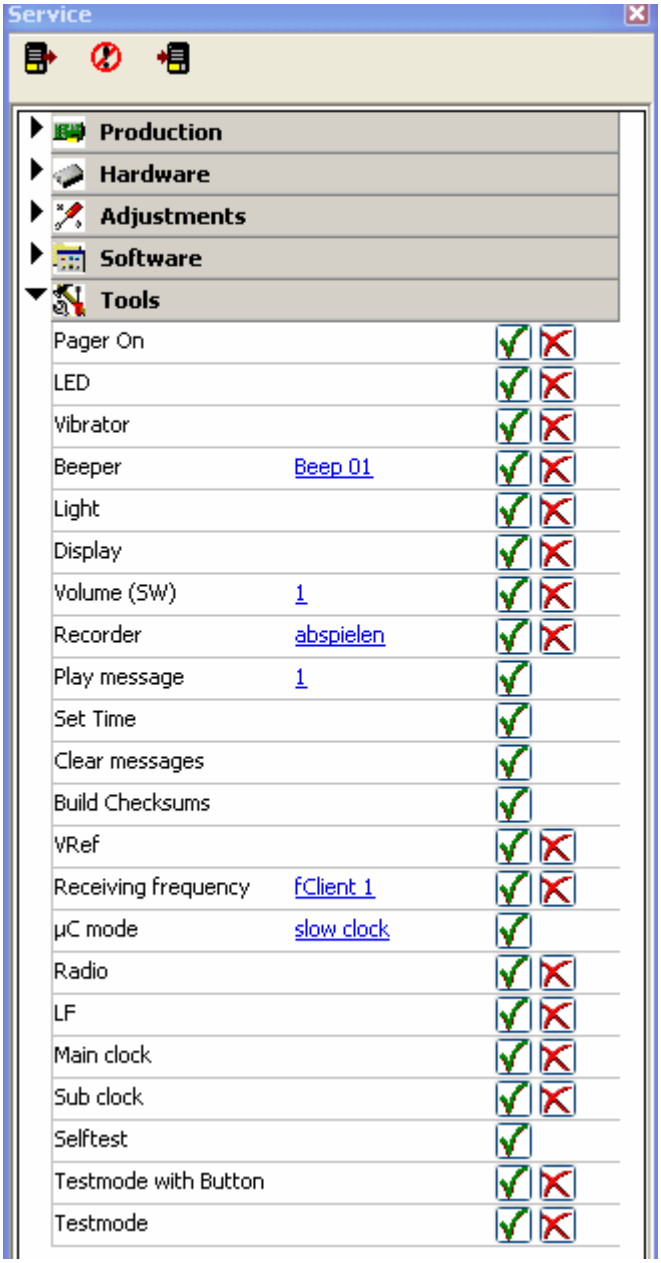


The information contained in this tab are only stored inside the *.629 file, not the receiver. You may use this form freely e.g. to store costumer data.

8. Setting the clock time

(only for Voice and Memo)

The clock time is automatically transferred during a programming session from the PC system time. The clock time can also be set at the receiver (see user manual of the receiver).
It is also possible to set the clock time in the "service dialogue"; "Set Time" is setting the PC system time on the receiver:



9. Set a password

To protect the user data of a receiver it is possible to set a password (choose "password" in the toolbar). The receiver is already protected during reading out.

If the password is not available, it is possible to set a new one; hereby all user data are getting lost (programming file reset)! If a receiver is coming without password into a repair center, it is only possible to reset in this way.
If no password should be used any more, read out the receiver, save the programming file, and let the field empty "new password" and "confirm".

10. Important notes

There is an abundance of **security features** in the programming software that output clear information and warnings to ensure that the RE629 pager programming functions properly. These features react to incorrectly defined parameters and request the user to check and correct the parameters.

Warnings are output when incorrect parameters, ranges, times or function links are selected. The programming of incorrect parameters is hereby deterred. Only a part of the errors due to incorrect variable values, which could lead to improper function in the radio network, can be discovered beforehand.

Only software-related functions can be programmed. The hardware in the device cannot be changed by the programming.

- The programming operation is indicated with a flashing green LED. When the programming operation is completed, the pager resets and the power can be heard. When reading device data with "READ" the LED flashes, and the pager resets too. As long as the pager is in the programming status, it shall under no circumstances be removed from the programming adapter. (If necessary, send a reset command). A short interruption can already lead to a E-PROM corruption. Therefore please check that the contacts on both pager and programming adapter are clean before programming.

ATTENTION!

The original programming software is specially marked, and SWISSPHONE reserves the right to make changes to this software.

When a new version of the software is installed, the old version should not be used anymore.

11. LIABILITY!

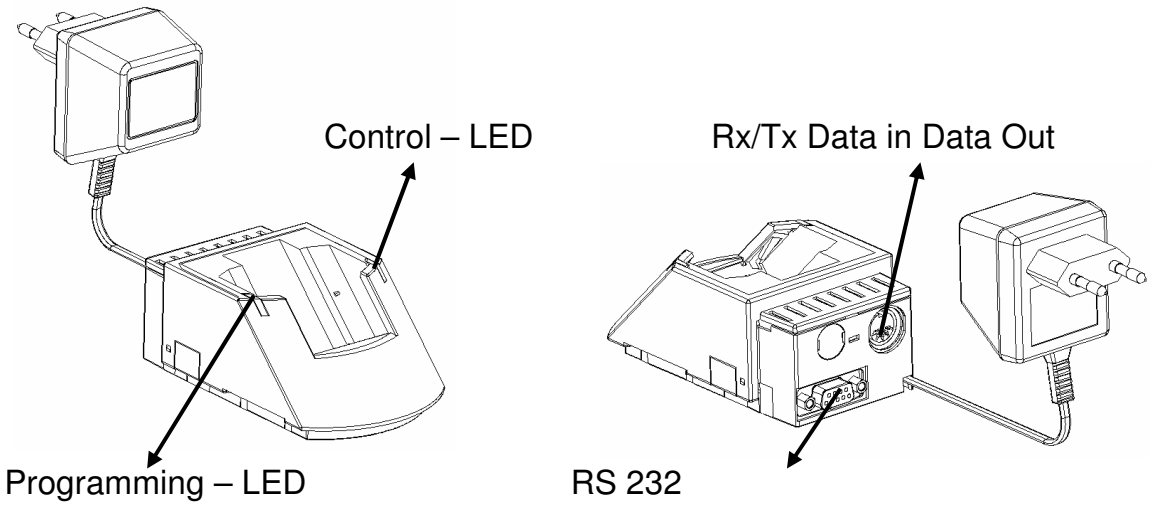
SWISSPHONE is not liable for incorrect programs, for programs that violate the regulations of the BOS or any other network operators or for any damage resulting from such programs.

12. Technical Data SGA Professional

SGA Professional:

Power supply:	Plug-in power supply, AC 230V +/-10%
Frequency:	50/60 Hz
Secondary voltage:	DC 12.6V / 450mA, unregulated.
Power supply plug:	Euro-plug: CH, Germany, F, Scandinavia, among others
Standards:	SEV, VDE, DEMKO, SEMKO, etc.
Monitor LED:	Amber LED = DC supply Green LED = data flow
Ports (interfaces):	DIN socket RS -232, 9-pin, female

13. View of the SGA Professional



ATTENTION: The programming adapter PG Professional is not a charging unit.