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# SICARE Pilot

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## Client Information User Manual



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## SICARE Pilot - User Manual

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# SICARE Pilot - User Manual

## 1. Fields of Application

Thanks to modern technology, physically disabled persons are now able to cope on their own with most everyday situations.

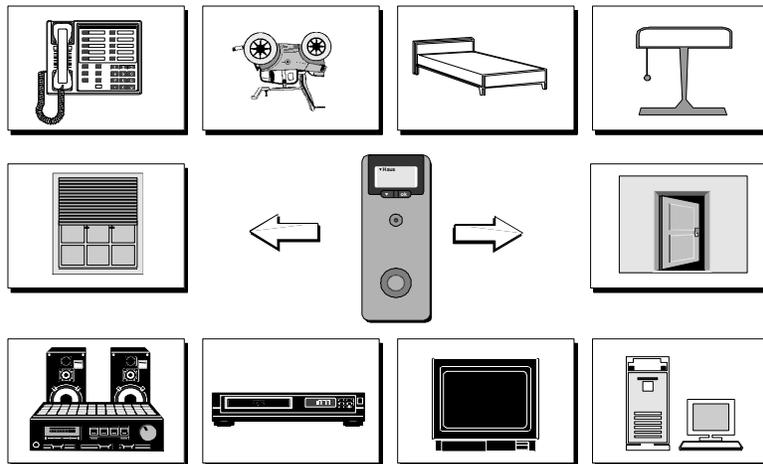
The many different ways of operating modern devices, however, means that the disabled person has not only frequently to rethink, but often has to change control units.

SICARE Pilot is a mobile device for controlling and operating numerous appliances and equipment designed specifically for the disabled, as well as for household technology, communication and entertainment electronics.

SICARE Pilot converts spoken commands into signals to control equipment designed specially for this purpose. The signals are outputted by:

- Infrared transmitter, e.g. for television, video recorder, hi-fi equipment, telephone, and lighting
- Radio transmitter, e.g. X-10 access
- Wired interfaces, e.g. for motorized adjustable beds

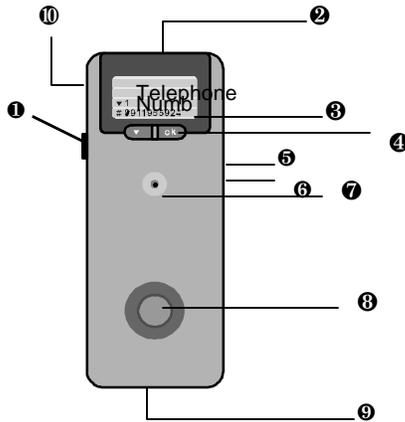
SICARE Pilot can be operated as an installed device from the mains (the power supply unit is also the battery charger) or as a portable device with batteries.



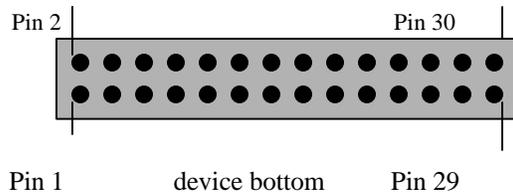
*Fig. 1: Fields of application*

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### 2. Hardware



- ❶ Off/On switch
- ❷ Infrared transmitter
- ❸ LCD display
- ❹ Keys
- ❺ Socket for external keys
- ❻ Loudspeaker/microphone socket
- ❼ Built-in microphone
- ❽ Built-in loudspeaker
- ❾ Combination interface
- ❿ Rechargeable batteries/battery holder with integrated slide switch (rear-side)



#### ❶ OFF/ON switch

The slide switch has two positions:

- 1) Switch set upwards means that the device is in stand-by mode. Pressing one of both keys turns the device on.
- 2) Switch set downwards means that the device is switched off.

#### ❷ Infrared transmitter

#### ❸ LCD Display

Four lines, with 20 characters each, green back-lighted LED

#### ❹ Keys

The SICARE Pilot can be operated via speech or by using the keys.

▼ = SCROLL key: The SCROLL key changes between commands in a command level.

OK = OK key: The OK key carries out the selected command

#### ❺ Socket for external switch

Interface (connection) for external features

#### ❻ Loudspeaker/microphone socket

Interface (connection) for an external microphone, an external loudspeaker/headphone, or a headset

#### ❼ Built-in microphone

The built-in microphone is adjusted so that it responds at short distances only

#### ❽ Built-in loudspeaker

#### ❾ Combination interface

In one socket, the combination interface unifies the serial and parallel interface, connections for an external loudspeaker and an external microphone, connections for external keys, as well as connections for power.

#### ❿ Rechargeable battery/regular battery switch

Set the switch in the battery holder to A for rechargeable battery operation;

OR set the switch to B for regular battery operation

**ATTENTION!** This switch must always be set firmly in one or the other position, otherwise the unit could be damaged!!

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### 3. Overview of Functions

With the SICARE Pilot, up to 64 different commands can be stored. Simple commands such as “on”, “off”, “left”, “right”, etc. can be added to any other command and can therefore be used more than once in combination. The SICARE Pilot sends commands like “Turn on TV” automatically via the selected interface to the desired device. Each command can initiate actions on various devices at the same time. For example, as soon as the phone rings, the volume on the radio and TV are turned down.

The range of the SICARE Pilot’s functions depends on the configuration of the device. The SICARE Pilot is configured using PC software supplied with it.

Configuration consists of:

- Defining the menu structure  
Choosing the menu items, branches and actions
- Setting the parameters for actions  
Transmission type and value
- Training the voice pattern

Having copied the configuration data into the pilot, the device can be operated entirely without the PC. The commands are given by speaking, using the voice pattern recognition. If there are problems of recognition in operation, it is possible to retrain every command word on the Pilot. Other individuals can operate the SICARE Pilot with control keys.

All menu items and actions are shown on the display.

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### 4. Turning on your SICARE Pilot

When the SICARE Pilot is turned on **Ⓚ**, the device is in stand-by mode. Pressing the SCROLL key or the OK key **Ⓚ** starts the device. After briefly showing the software version on the display, the first word of the main-menu level is shown in the first line of the display.

#### **ATTENTION !**

The SICARE Pilot is delivered with 2 empty rechargeable batteries. These must be charged for **at least 3 hours**, before a configuration from the PC can be transferred into the SICARE Pilot! ▶

**Failing to pay attention to this can put your SICARE Pilot into an errant condition which can only be corrected at the factory!**

### 5. Operating your SICARE Pilot in the holder

Operation in the holder is done for the following reasons:

- To operate your SICARE Pilot using the mains
- To charge the rechargeable batteries
- For exchanging data between a PC and the SICARE Pilot
- For teaching the speech samples for operation of the SICARE Pilot by voice

To assemble the base of the holder to the foot base:

1. Place the square bolt into the horizontal slit on the back of the holder.
2. Connect the foot base to the holder using an allen screw.

Place the SICARE Pilot in the holder, until the plastic tip on the cover of the battery holder snaps into the hold in the holder.

For easier removal of the SICARE Pilot from the holder, press the sides of the holder lightly together and pull the SICARE Pilot out of the holder.

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### 6. Operating your SICARE Pilot using power while charging the rechargeable batteries:

1. Place the SICARE Pilot in the charger
2. Plug the telephone connector of the power cable into the holder, and plug the power cable into the wall socket.

Now your SICARE Pilot is being supplied with power from the mains, independent of which batteries are being used.

Please be aware of the following:

Battery holder contains	Battery switch is set to	Action	
Rechargeable batteries	Position A	Rechargeable batteries are automatically charged. During charging, the half-empty battery symbol is shown  Charging stops automatically once the rechargeables are fully charged.	
	Position B		Operation is not permitted: <b>Danger of damaging the device!!</b>
Regular Batteries	Position A		Operation is not permitted: <b>Danger of damaging the device!!</b>
	Position B	The batteries can be left in the holder even though external power is being used.	

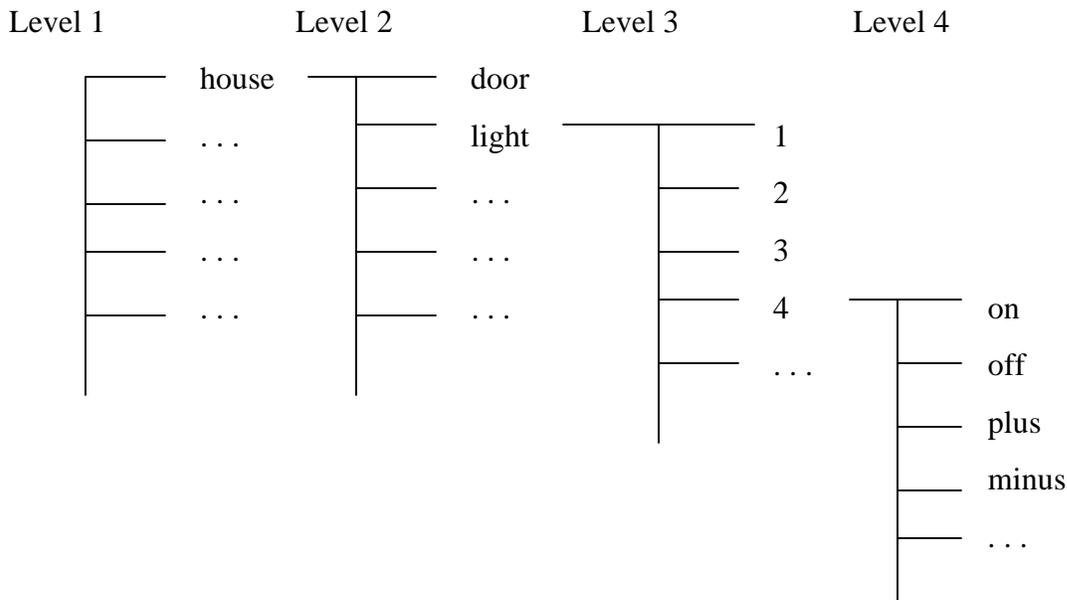
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### 7. Operating the SICARE Pilot

*Operation by Spoken Commands:*

SICARE Pilot is normally operated by means of spoken commands. The user speaks the commands of the menu tree one after the other to achieve the desired action.

The menu tree might be:



Although the user needs four commands to dim the lamp, the menu structure allows many actions using only a few command words. The plus/minus pair of commands, for instance, can change the volume on hi-fi equipment or the angle of inclination of the back of a chair.

With command words 0-9, telephone numbers can be composed, socket-outlets can be numbered, or television channels can be chosen.

*Operation by Command Keys:*

Because the SICARE Pilot is trained to recognize the individual voice pattern, operation by a third person is only possible by means of command keys. Speaking a command is the same as selecting a command with the scroll key and confirming it with the OK key on the Pilot.

By connecting a dual switch, or two single switches with a CA-1 connector, the Pilot can also be operated.

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### 8. Configuring the SICARE Pilot

\* See Training Manual

### 9. Running the SICARE Pilot Using Voice or Key

Operation examples using voice or key:

\*menu items have already been trained.

Example 1:

<b>Starting Situation</b>	
Display	▼ House
Desired Action	Turn on lamp 2

SICARE Pilot operation	Direct voice input	Qualified voice input	Key Operation dual switch	Key Operation single switch
<i>What to press or do</i>	"House"	"do it"	<b>ok</b>	<b>ok</b> <i>twice after the scanning is completed</i>
Voice output	House, Light	House, Light	House, Light	House, House Light
Display	House ▼ Light	House ▼ Light	House ▼ Light <b>ok</b>	House ▼ Light <b>ok</b>
<i>What to press or do</i>	"Light"	"do it"	<b>ok</b>	<b>ok</b>
Voice output	Light, one	Light, one	Light, one	Light,One
Display	House Light ▼ 1	House Light ▼ 1	House Light ▼ 1 <b>ok</b>	House Light ▼ 1 <b>ok</b>
<i>What to press or do</i>		"next"	<b>ok</b>	<b>ok</b>
Voice output		two	two	two
Display		House Light ▼ 2	House Light ▼ 2 <b>ok</b>	House Light ▼ 2 <b>ok</b>
<i>What to press or do</i>	"two"	"do it"	<b>ok</b>	<b>ok</b>
Voice output	two, on	two, on	two, on	two, on
Display	House Light 2 ▼ on	House Light 2 ▼ on	House Light 2 ▼ on <b>ok</b>	House Light 2 ▼ on <b>ok</b>
<i>What to press or do</i>	"on"	"do it"	<b>ok</b>	<b>ok</b>
Voice output	on	on	on	on
Display	House Light 2 ▼ on	House Light 2 ▼ on	House Light 2 ▼ on <b>ok</b>	House Light 2 ▼ on <b>ok</b>
<b>Action</b>	<i>Lamp two is turned on</i>			

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Example 2:

### Starting Situation

Display	House Light ▼ 2
Desired Action	Light 2 is on and you want to turn on light 1

SICARE Pilot operation	Direct voice input	Qualified voice input	Key Operation dual switch	Key Operation single switch
<i>What to press or do</i>		“next”		
Voice output Display		off House Light 2 ▼ off	off House Light 2 ▼ off	off House Light 2 ▼ off
<i>What to press or do</i>		“next”		
Voice output Display		return House Light 2 ▼ return	return House Light 2 ▼ return	return House Light 2 ▼ return
<i>What to press or do</i>	“return”	“do it”		
Voice output Display	return, one House Light ▼ 1	return, one House Light ▼ 1	return, one House Light ▼ 1	return, one House Light ▼ 1
<i>What to press or do</i>	“one”	“do it”		
Voice output Display	one, on House Light 1 ▼ on	one, on House Light 1 ▼ on	one, on House Light 1 ▼ on	one, on House Light 1 ▼ on
<i>What to press or do</i>	“on”	“do it”		
Voice output Display	on House Light 1 ▼ on	on House Light 1 ▼ on	on House Light 1 ▼ on	on House Light 1 ▼ on
<i>Action</i>	<i>Lamp 1 is turned on</i>			

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### 10. Special Commands

#### Snooze/wake-up

Because the SICARE Pilot reacts to voice commands, it constantly compares noises in its environment with its recorded voice patterns. If you want to reduce the chances that the device responds accidentally, for example during a conversation, you can put the SICARE Pilot into stand-by mode with the command 'snooze'. It can be brought back into the active mode only with the command 'wake-up'.

To do this, configure into your menu the menu item "snooze" in the desired levels (1-3) of the menu and configure "wake-up" as the only menu item in its submenu.

#### Return

The 'return' command takes you back up one level in your active menu. The first command of this previous level is then automatically selected.

#### Main Menu

The command 'main menu' takes you directly out of level 2, 3 or 4 and brings you back to level 1, the so-called main menu. Similar to the 'return' command, the first command that has been configured for the main menu level will be selected automatically.

The command deletes the complete display and the number memory, in which perhaps a telephone number might have been collected. For more information, see the "training manual" for the telephone.

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### 11. SICARE Pilot status display

While operating on rechargeable, or normal, batteries, if the voltage of both cells drops under 2.25 Volts, the symbol of an empty battery will show on the right side of the first line in the display. This lets you know that it is time to change batteries. If the batteries are not replaced, and the device reaches the minimal, battery voltage level, it will turn itself off.

If the SICARE Pilot is in the charger stand, connected to external power, the symbol of a half-full battery, displayed on the right-hand side of the first line, indicates that the rechargeable batteries are being recharged.

If no command has been trained, a 't' will appear on the second line, on the right-hand side. To run your SICARE Pilot with voice commands, you must first train it with voice patterns.

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### 12. The “Special Functions” menu of the SICARE Pilot

This menu is integrated in the SICARE Pilot and cannot be changed by the user. This menu is used for setting permanent device functions. The special functions menu can be accessed only via keys or by the commands “next” and “do it” (qualified voice input).

The structure of the special functions menu is shown in the diagram on the following page.

The functions available to you in the special functions menu are:

- training
- voice output
- scan mode
- low battery
- display light
- save
- return
- new start

#### **Important:**

When using the special functions menu, changes in all settings (except training) are saved only by doing a “save”.

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Structure of the special functions menu			remarks		
Special Functions	Training	select word	word 1	to exit from the training menu press "restart" or turn off the device (= abort)	
			word 2		
			word 3		
			word n		
		record			
		store			
		delete word	do it!	Attention! All voice patterns of the selected word will be deleted	
			return		
		delete all	do it!	Attention! All voice patterns of <u>all words</u> will be deleted	
			return		
	restart				
	speech output	volume		plus	Jumping to a menu item gives voice output automatically
				minus	
				return	
				main menu	
scroll			on	Executing a menu item gives voice output automatically	
			off		
			return		
menu selection			on	Executing a menu item gives voice output automatically	
			off		
			return		
	return				
	main menu				
scan mode	scan time		+10	time period that SICARE Pilot takes for scanning through one command word The units for this time period is 100 ms, i.e. +10 = +1s	
			+1		
			-1		
			-10		
			return		
	scan repeat		+1	The number of times the SICARE Pilot scans through the active level	
			-1		
	return				

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low battery	on	The acoustic warning sound can be switched on or off
	off	
	return	
display light	on	The display light can be switched on or off
	off	
	return	
	main menu	
store	do it!	The changes in this menu are saved
	return	
return		

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### 13. Retraining Single Commands

Commands are trained during the configuration of the SICARE Pilot together with the PC. However, the pilot itself offers the possibility to retrain single commands. This might be necessary if you discover that the commands you speak to the device are not being correctly recognized by it.

To train single commands, please do the following:

1. Select the commands with “select word”
2. Speak and record your voice pattern with “record”
3. Save the recording in the SICARE Pilot memory with “store”
4. Restart the device with “start again”, thus transferring the voice pattern from the temporary memory into the long-term memory.

Restarting the device is not necessary after recording each single voice pattern. It is enough to do so after a complete training session: choose commands, record voice patterns, and store - then restart after ending the full session. Remember that turning off the device in the middle of the training aborts the session and nothing is saved. Details can be found in the table that follows.

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### Retraining Single Commands - cont.

Using the special functions and training menus		comments
Display	▼ special functions	This special functions menu items can be selected only by using the keys or by the commands "next" and "do it!".
Voice Output	special functions	In the special functions menu there is no voice output for the command
<i>What to press or do</i>	<b>ok</b>	
Display	special functions ▼ training	
<i>What to press or do</i>	<b>ok</b>	
Display	SF/training ▼ Select word	SF (Special Functions)and training are divided on the first line.
<i>What to press or do</i>	<b>ok</b>	
Display	SF/training select word            t ▼ next                    04	The number on the right-hand margin of the third line shows how many voice patterns are associated with the command.
Voice Output		
<i>What to press or do</i>	<b>ok</b>	
Display	▼ SF/training select word            t  Next	The selected word drops down to the fourth line. All actions that follow are related to this selected word.
Voice Output		
<i>What to press or do</i>		
Display	SF/training ▼ select word            t  Next	
<i>What to press or do</i>	<b>ok</b>	

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### Retraining Single Commands - cont.

Using the special functions and training menus		comments
Voice output	Beep tone	The beep means the device is ready to record. You have 1.2 seconds to speak.
<i>What to press or do</i>	“next”	After the beep, speak the selected word quickly and near the microphone.
Voice output	next	The device immediately plays back your recording. If you are not satisfied with the quality, you can redo the recording by pressing the OK key again.
Display	▼ SF/Training record t next	The arrow in the second row appears immediately after the recording has been completed.
<i>What to press or do</i>		
Display	▼ SF/training Select word t next	For each word there are several voice patterns. With ‘save’, one memory position is filled and the SICARE Pilot moves on to the next position.
<i>What to press or do</i>		
Display	▼ SF/Training select word t next	Returning to the menu-item ‘select word’ is automatic. If you want to go on from this position to select another word, press the OK key.
<i>What to press or do</i>		
Display	▼ SF/Training record t next	If you at this point, you want to record a second voice pattern for ‘next’, press the OK key.
<i>What to press or do</i>		
Display	▼ SF/training save t next	
<i>What to press or do</i>		

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### Retraining Single Commands - cont.

Using the special functions and training menus		comments
Display	SF/Training ▼ repeat t next	
<i>What to press or do</i>		
Display	SF/training ▼ delete word next	If you want to erase the voice pattern for 'next', press the OK key
<i>What to press or do</i>		
Display	SF/training ▼ delete all t next	If you want to delete the voice patterns for <u>all words</u> , press the OK key
<i>What to press or do</i>		
Display	SF/training ▼ restart t next	The training menu can only be exited by doing a restart. The saved data will be accepted, and the new voice patterns will be used from now on. By turning off the device, training can be aborted (quit without saving).
<i>What to press or do</i>		
Display	Please wait...	Save and restart take about 30 seconds.

### Single Switch Mode

The single switch mode or scanning mode can be switched on or off. Furthermore the parameters time period for scanning each menu point (Scan Time) and the number of scans made in each active level (Scan repeat) can be edited.

### Low Battery

The acoustical warning for low batteries can be switched on or off.

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### **Retraining Single Commands - cont.**

#### **Voice Output**

The SICARE Pilot is equipped with a voice playback function. All selected commands of the word list are stored in the device. A built-in loudspeaker outputs playbacks during scrolling (moving through menu levels) and when menu items are selected (by changing menu levels or doing actions.)

Voice Output can be turned on or off independently in both cases.

The speaker volume is controlled under an additional menu item.

#### **Display Light**

The back lighting of the device's display can be turned on or off.

#### **Saving**

All changes made to the voice-output or display-light settings must be saved if they are to be kept in the basic settings of the device. Otherwise, these changes have no effect when the device is turned off. While saving, which takes about 30 seconds, no other function can be done.

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### 14. Safety Precautions and Maintenance

Do not use your SICARE Pilot to control security or safety sensitive functions (for example speed of brakes of a wheelchair), since noises from the environment can interfere with the device.

#### **Safety precautions when using rechargeable batteries and regular batteries.**

A rechargeable cell should never be opened for any reason. The cells contain caustic potash electrolytes that are corrosive. If the electrolyte should come into contact with the skin or eyes, immediately rinse the affected area thoroughly with clear water and call a doctor.

Batteries and rechargeable batteries should not be burnt in a fire or oven - they can explode.

Regular batteries should not be recharged since this can cause an explosion. Please pay attention to the switch setting on the battery holder: to operate the device using batteries, the switch must be set to "BATT"!

Regular batteries and rechargeable batteries will have different kinds of cells and capacities and should not be combined together. Wrong combinations can damage them and the device.

Regular batteries and rechargeable batteries should not be shorted - they might explode. Please pay attention to battery polarities to prevent damage.

When storing the SICARE Pilot, the on/off switch must be set to OFF, otherwise an accidental key press would turn the device on and cause the rechargeable batteries to be fully discharged.

Batteries discharge even if they are not being used. At room temperature, a rechargeable loses about one quarter of its charge in a month. During longer storage, there is an additional loss of capacity of about 5% per year. They regain full storage capacity after about three charge-discharge cycles.

The SICARE Pilot's charger and charger control electronics are made for NiCd rechargeable batteries with 600 (max. 750) mAh. High capacity NiMh rechargeable batteries with 1100 mAh can be used in the device, BUT these must be charged in another charger.



Used rechargeable batteries and regular batteries should be discarded in the appropriate recycling container or be brought to a location set up for taking used batteries.



#### **Care and Maintenance**

Use a dry cloth to clean the device. If you need to clean it more thoroughly, use a damp cloth with a little dishwashing soap - wring out the cloth. Do not use abrasives or solvents. Under no circumstances let any liquid get into the device.

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### 15. FCC Class B Digital Device or Peripheral - User's Notice

#### NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

#### WARNING:

Changes or modifications not expressly approved by Evosoft Softwaretrieb GmbH could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules.  
Operation is subject to the following two conditions:  
(1) This device may not cause harmful interference and  
(2) this device must accept any interference received,  
including interference that may cause undesired operation.

#### Industry Canada ICES-003 Label Requirements

This digital apparatus does not exceed the Class A/B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of Industry Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe A/B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques", NMB-003 édictée par le ministre Industrie Canada.