

Operating manual



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Safety information

You can't be too sure!

- ! Do not make any alteration in **VOCAL**. This is a precondition for a proper functioning of the device.
- ! Make sure that the microphone-speaker-unit of **VOCAL** does not come into contact with water or other liquids. If necessary, clean the parts with a moist cloth.
- ! Avoid teaching two or more keywords (via two or more secret numbers) for one user. It would decrease the recognition rate.
- ! Make sure that you are the only person to know your secret numbers and keyword - for the sake of your car's safety.
- ! Store the supplied dialer at best in your car. You might need it as your „emergency key“. Therefore, it should be always in the reach.
- ! Do not take your personal secret code down openly but encode it with the help of the supplied **MEMO CARD**. Keep the envelope with the secret numbers in a safe place at home.



Introduction

„Open, Sesame!“ - only for you

With **VOCAL SCW 1** you have chosen safety and comfort:

VOCAL SCW 1 is the very first electronic car immobilizer with speaker verification by voice pattern and keyword as well as coded signal transmission - a new forwardlooking technology.

VOCAL SCW 1 ensures your safety: The key - your own voice - is highly protected against imitation and, of course, against theft and loss. Coded signal transmission ensure even more security against manipulations.

VOCAL SCW 1 is comfortable: You do not need an extra key. Operation is easy - you simply enter your keyword.

Your garage staff have installed **VOCAL SCW 1** into your car and trained you to operate it. Nevertheless, read this operation manual carefully. Thus the joy of operating **VOCAL SCW 1** will not be spoilt by avoidable operating errors.

You received a letter with five secret numbers - the personal user codes - for you and four additional authorized drivers of your car. Apart from the manufacturer you are the only person to know these secret numbers.

Scope of delivery

What belongs to **VOCAL SCW 1**?

The scope of delivery for **VOCAL SCW 1** includes:

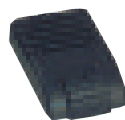
- microphone-speaker-unit
- control unit with connection cable (built-in)
- dialer (remote inquiry code sender)
- solenoid valve (built-in)*
- relay module (built-in)*
- operation manual
- approval certificate
- letter with secret numbers and memo card



dialer



control unit



microphone-
speaker-unit

* Delete as applicable

Fonction

VOCAL SCW 1 ist the very first electronic car immobilizer using the principle of speaker verification.

VOCAL SCW 1 recognizes you as authorized driver (and up to four additional users of your car) by your voice pattern and your spoken keyword and allows you to start the car.

VOCAL SCW 1 is mainly operated by the following basic components:

- **microphone-speaker-unit:** Via the microphone you enter a code by voice or dialer. You hear instructions or responds over the loudspeaker.
- **control unit:** Incoming signals are processed and appropriate reactions are triggered.
- **solenoid valve*:** It interrupts the fuel supply as additional security
- **relay module*:** It disconnects an important circuit in a hidden place and can not be switched without **VOCAL**

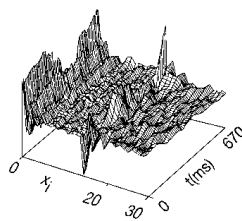
* Delete as applicable

Fonction

VOCAL disconnects the circuits for ignition, starter and fuel pump as well as fuel supply (optional). Only if the system recognizes you as speaker, i. e. authorized user the control unit (and additionally the relay module*) close the circuits for ignition, starter and fuel pump. Only then the solenoid valve* unblocks the fuel supply (optional).

Further important features of **VOCAL** are:

- The system is teachable. It stores and analyzes your voice in order to recognize it later again.
- Operation is easy and comfortable. You do not need an extra key. Your voice is the key to unblock the system.
- You can choose your individual keyword and change it at any time.
- The recognition rate of the system is very high, i. e. it is very unlikely that mistakes you with another speaker.
- **VOCAL** is a self-immobilizing system. It switches on automatically.



* Delete as applicable

Operation

How can I operate **VOCAL SCW 1**?

➤ This sign indicates acting instructions.

"Okay" the words spoken by **VOCAL** are marked by a different typeface.

🔊 explanation for a better understanding of **VOCAL**

Your electronic car immobilizer **VOCAL SCW 1** offers you much operating convenience. You mainly operate **VOCAL** by your voice.

The dialer is used for different operations as training of voice and keyword, change into a different mode etc. It is a remote inquiry code sender that makes your numerical code audible as sequence of sounds.

You might have already wondered: What happens if my voice is considerably changed or even totally fails? We have also taken this possibility into account: In that case the dialer is used as emergency key. You enter your number code with the dialer.

Dialer - How can I use the dialer?

Please also observe the operation manual of the dialer! The signals of the dialer are transmitted from the loud-speaker opening at the dialer's back.

Operation

The opening should be situated over the microphone when entering the numerical code. The distance should be about 1 cm. For entering different codes the following should be observed:

- Switch on ignition of your car.

You are requested:

„Please speak“

(There is a short signal after each request to enter a numerical code or keyword. Type your code or speak your keyword only after that signal.)

- Enter the dialer signals without a break.
(Note: numerical code - code consisting of your secret number and additional signs)

Every numerical code is typed on the keys of the dialer in the following order:

1. Enter the sign #
2. Enter your personal secret code of 5 numbers.
3. Enter the additional sign for the following modes:

car unblocking (emergency key function)	*
training	1
garage mode	2
dialogue mode on/off	3

Operation

Example for entering the numerical codes:
(**xxxxxx** stand for you personal secret code)

- car unblocking **# XXXXXX***
- training **# XXXXXX1**
- garage mode **# XXXXXX2**
- dialogue mode on/of. **# XXXXXX3**

If you typed a wrong number the entry can always be terminated with typing „**O**“.

VOCAL confirms the termination with
„**End**“

Switch off ignition and switch it on, if necessary.

Start with dialer

In the beginning you start your car by entering a numerical code on your dialer. Just a bit later you train **VOCAL** into your voice so that the car can be started by your keyword. Keep to the following steps for starting your car with numerical code:

- Switch on ignition as usual.

You are requested:

„**Please speak**“ (signal)

- Type your numerical code with the dialer (for instance **# 12345*** for first unblocking; see also next chapter).

If **VOCAL** accepts the code you hear:

„**Okay**“

The system allows you to start.

- Start the engine.



Operation

Different operations

Besides normal operation of **VOCAL SCW** to release the starting process further operations are necessary that are explained below.

Initial unblocking - When I buy the car

You have bought your car with built-in car immobilizer **VOCAL** or you had it built into your car later.

The system is programmed with a first unblocking mode that responds to a neutral user code (12345). This neutral user code can be used for initial unblocking when the car is handed over to its first user. It allows several unblocked motions (e. g. transport, trial run, demonstration of car immobilizer, first use by customer ...).

That means that you can start your car at once by entering the code **# 12345*** as explained in the previous chapter.

Once you have entered your personal secret number for the first time the initial unblocking mood can not be used any more.

Attention:

The numerical order 12345 is not a secret number. It is known public and has no security.

Operation

Training - How do I train **VOCAL** to my voice?

The training mode is used for programming your keyword. First of all you give **VOCAL** a pattern of your keyword and thus also of your voice for several times on the basis of which you will be later identified as speaker. Sit into your car - at best alone - and close the doors and windows to avoid disturbing noise. Thus you arrange the acoustics that will be mainly found when you start your car and enter your keyword. Make sure that no noise disturbs the record of your keyword during training.

- > Select a word with 3 - 4 syllables.
- > Switch on ignition of your car

You are requested:

„Please speak“ (signal)

- > Enter the command for training with dialer:
#XXXXXX1

You hear the confirmation:

„Training“

and then the request

„Please speak“

A signal follows after which you have 2 seconds to speak your keyword:

- > Speak your keyword

VOCAL repeats your keyword.

Operation

You are requested to speak your keyword all in all seven times - each time after

„Please speak“ (signal)

Each time the system repeats your keyword. (Note: The repetition of the keyword permits you to determine the correct loudness. It also shows you if you have spoken at the right time.)

In case there are greater irregularities during training the system will request you to repeat training - see also chapter **„Defects, faults“**.

The training is terminated with

„Okay“

- > Start your car
- or
- > switch off ignition.

Now you are trained as authorized user and can start your car with your keyword. The training is finished.

During the first five starts after training the system adapts to your voice, i. e. the starting process is slightly delayed and runs as follows:

„Please speak“ (signal)

- > Entry of your keyword

Operation

VOCAL repeats keyword

„One moment“

(indication for a longer processing time)

„Okay“

When adaption is completed unblocking runs as described above.

We recommend to complete training and adaption phase for one user before possibly start the training of another user.

It is possible to train a new keyword at any time in case you intend to change it.

Then the previous keyword will be deleted.

Start with keyword

You start your car with your keyword as follows:

➤ Switch on ignition.

You are requested:

„Please speak“

A signal follows and afterwards you have two seconds to speak your keyword:

➤ Speak your keyword.



Operation

VOCAL repeats your keyword and confirms
„**Okay**“

You can start now!

When **VOCAL** does not recognize the speaker's voice it
responds after the repetition of the keyword
„**Sorry**“

After the second refusal it informs you:
„**End**“

Operation

Change of dialogue mode -
VOCAL without announcements

Having switched on ignition a voice leads you through the process until unblocking. These detailed acoustic operating instructions can be reduced.

When you are familiar with **VOCAL** you can switch off the dialogue mode (i. e. the voice) in order to cut the run:

> Enter the following code: **#xxxxx3**

You hear the confirmation
„Dialogue off. End“

> Switch off ignition.

Then you only hear a signal when ignition is switched on to start. Afterwards you have two seconds to enter your keyword. If you ignore this signal four times the fifth request is made by announcement:

„Please speak“ (signal)

The dialogue mode is still switched off and gives only a signal when ignition is switched on text time. The system confirms the entry by two signals (in dialogue mode **„Okay“**).

The dialogue mode can be switched on in the same way. Then you hear:

„Dialogue on. End.“

Operation

Garage mode

Now and again your car must be checked in a garage. Of course, the garage staff also need to drive it. As you should not give away your personal secret number and can not leave your voice as key the system provides a possibility to start with an additional code. It consists only of 4 numbers that you can choose freely. However please note that the number **ZERO** must not be used. We recommend to use this mode also when you let an untrained person have your car at short notice or for a short time instead of using the training mode.

Before the car is handed over to the garage staff or another temporary user a valid garage code must be agreed with **VOCAL:**

- Switch on ignition.

You hear the request:

„Please speak“ (signal)

- Change over to garage mode by entering: **#xxxxx2**

The system confirms:

„Garage mode“

and requests you

„Input“

After the signal you have 6 seconds to enter the garage code:

- Enter a code of four numbers: **xxxx**

Operation

Important:

The code is typed without the sign # here.

You hear the confirmation of
your entry and new request:

„Please repeat“ (signal)

- Enter the garage code - the four numbers you have
chosen - once again.

VOCAL concludes the change into garage mode:

„Okay“

For unblocking after the request

„Please speak“ (signal)

the garage staff enter only the agreed four numbers of
the garage code.

You do not need to reprogram **VOCAL** after having
collected your car from the garage.

Once you have entered your personal secret number or
keyword the garage code is automatically deleted.

Operation

Blockage ... „Blocked“ - Nothing is possible!

When **VOCAL** does not recognize the speaker's voice it responds after the repetition of the keyword

„**Sorry**“

After the fifth refusal it informs you:

„**Blocked**“

Now the system is blocked for 20 minutes. During that period it can not be unblocked.

However, ignition should be switched on until **VOCAL** responds after the blocking period

„**Please speak**“

Important:

VOCAL allows only five refusals, afterwards the system is blocked.

Thus the safety against improper manipulations is increased.

In order to avoid blocking, e. g. in case your voice is considerably changed due to hoarseness we recommend to unblock the system after the third refusal by entering your secret number with the dialer.

You have again five tries.

However, the total number of possible refusals can not be increased by switching off ignition in between times or interrupting the process with „**0**“.

Operation

Short stops - In a traffic jam!

Imagine you stand at a grade crossing barrier, traffic lights or in a traffic jam.

You switch off the motor for a short time and want to start again.

If the period does not exceed 5 minutes you can start immediately.

If the given period was exceeded or you opened the door meanwhile you are requested to speak your keyword. Proceed as usual.

Some more information about VOCAL SCW 1

We would like to give some more advices on how to operate **VOCAL**. The voice-operated-control system **VOCAL SCW 1** is a teachable system, i. e. the device has to adapt to you in order to recognize you definitely. Therefore, you train **VOCAL** to your voice and the keyword you have choosen.

Training consists of three phases:

1. Teaching (training)

- ☞ You have to speak your keyword seven times. Afterwards, the system is familiar with your keyword. Your specific voice pattern is only partly comprehended.

2. Learning phase I (adaption phase, up to five attempts after training)

- ☞ You will realize this phase by a longer processing time and the response „**Moment please**“
- ☞ Your specific voice pattern is taken in here.
- ☞ This phase is especially important and crucial for **VOCAL's** ability to recognize you fast and safely as well as to discern you from unauthorized speakers.

Note:

We recommend not carrying out the initial five tests in a row directly after training (Learning phase I). Have a break of at least 5 minutes between each recognition tests. Thus you say the keyword spontaneously. The system can adapt to you faster and more precisely then.

Some more information about **VOCAL SCW 1**

3. Learning phase II (permanent use)

- ☞ **VOCAL** needs additional ten successful recognitions on average to adapt to a user.
- ☞ Only after that period the maximum recognition rate will be achieved, i. e. the system can discern an authorized speaker from an unauthorized one.
- ☞ Now the system will go on learning in daily use.

Note:

- a) We recommend to test **VOCAL** by unauthorized users only after the full completion of Learning phase II cause of above mentioned reasons.
- b) It should be avoided that different persons use the same or an acoustically very similar keyword.
- c) Make sure that your keyword is not too short. The system will ignore extremely short or rather unvoiced words with less than 3 syllables (e. g. egg).

Naturally, **VOCAL** also works without these hints.

However, if you follow our advices you will enjoy operating **VOCAL** much earlier.

Summary

Commands of **VOCAL SCW 1**

#XXXXXX*	car unblocking
#XXXXXX1	training
#XXXXXX2	garage mode
#XXXXXX3	dialogue mode on/of
O	termination (end)

Messages

„Okay“

- You can start now or switch off ignition.

„Sorry. Please speak“

- The system does not recognize the numerical code or keyword. Repeat numerical code or keyword.

„End“

- Switch off ignition and - if necessary - switch it on again.

„Blocked“

- 🔊 After the fifth refusal the system is blocked for 20 minutes.

„Fault“

- 🔊 The system recognizes a fault. Take a look at the following instructions:

„Please repeat training“

- A fault occurred during training of keyword. Please repeat the whole training process. Should this fault happen again you should train another keyword.

Summary

„Training blocked“

- Wait for an other user to finish the adaption phase („**One moment**“). It is not possible to train at this time.

Requests

There is a signal after each request. Start to enter the code or speak only after that signal.

„Please speak“

- Enter your numerical code or speak your keyword.

„Please repeat“

- Enter the numerical code once again or speak your keyword once more.

„Input“

- Enter the garage code of four numbers.

VOCAL confirms the following operating state:

„Training“

- Your voice is introduced to the system.

„Dialogue on“

- The system confirms the operating mode „Reduced dialogue“.

„Dialogue off“

- The system confirms the operating mode „Completed dialogue“.

Possible defects, faults etc.

• Confused reactions

VOCAL does not respond as expected. You do not know what might have gone wrong:

- Hold the dialer with a distance of about 1 cm at the microphone housing and type „**O**“. Thus the process is cancelled and you hear
„**End**“.
- Switch off ignition, switch it on and start again.

• VOCAL does not listen to me

VOCAL SCW 1 keeps on requesting you during entry with dialer:
„**Please speak**“

- 🔊 The signals of the dialer are not loud enough. Hold the dialer nearer to microphone opening.

• VOCAL does not recognize me

Having spoken the keyword **VOCAL** always respond
„**Please repeat**“

- 🔊 Your voice is changed or the surroundings are too loud.
- After 7 - 8 tries with the same result you should use the dialer.

If this fault occurs frequently we recommend a new training.

Possible defects, faults etc.

- **VOCAL refuses me**

Although you speak the correct keyword **VOCAL** always respond „**Sorry**“.

- ☞ Your voice is considerably changed or there is a disturbing noise (e. g. talks of passengers).
- If this fault occurs frequently we recommend a new training.

Having typed the dialer code you hear:

„**Sorry. Please speak**“.

- ☞ You have typed a wrong code or exceeded the entry period.
- Repeat entry. Make sure that you type correctly and without a break between the signals. You have 10 seconds to enter the total sound sequence.

- **A typing error?**

You notice that you made a typing error when entering the dialer code.

- Type „**O**“ and wait until **VOCAL SCW 1** responds „**End**“.
- Switch off ignition, switch it on and start again.

Possible defects, faults etc.

- **If you do nothing**

If you do not enter a numerical code or keyword after having been requested „**Please speak**“ for several times.

VOCAL responds

„**End**“.

➤ Switch off ignition.

- **Training failed**

If you hear after having concluded training:

„**Error. Please repeat training**“

you made a mistake during training. Then the system is not trained to your voice.

➤ Repeat training. You are again requested seven times to speak your keyword.

„**Training blocked**“

➤ Wait for an other user to finish the adaption phase. Take a look at the chapter „**Training**“.

- **VOCAL is blocked**

„**Blocked**“

☞ After the fifth refusal the system is blocked for 20 minutes. Take a look at the chapter „**Blocked**“.

Use of memo card

Use the enclosed memo card for encoding your secret numbers! With the help of the memo card you can leave the secret code with you or the dialer without the need to fear that unauthorized persons circumvent the security given by **VOCAL**.

Proceed with your secret code as illustrated in the following example:

- Provided you secret code was 73167.
- Choose a word with at least 5 letters that is easy to remember. (Avoid to use your keyword for **VOCAL SCW 1** or **VOCAL** itself.)
- for example: V O C A L
- Write line by line below the respective letter (in this example for V O C A L the numbers into your card:

number 7 below V
 number 3 below O
 number 1 below C
 number 6 below A
 number 7 below L

MEMO CARD VOCAL												
A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
								7				
	3											
		1										
6												
											7	

- Fill the remaining fields with other numbers. Thus your secret code can not be encoded without knowing your secret word. Proceed in revers order to find your secret code.



Warranty terms

The manufacturer grants a 6 months warranty with the electronic immobilizer **VOCAL SCW 1** that starts from date of purchase.

During the guarantee period any fabrication or material defects will be corrected free of charge by the manufacturer.

Warranty expires in case of damages as a result of accidents, improper assemblage as well as unauthorized operations.

The manufacturer is not liable for damages or operation defects of the equipment or car that result from improper assemblage or manipulation of the equipment.

The manufacturer reserves himself the right to decide on replacement or repair. Further claims are excluded.

The manufacturer is not liable for damages as a result of a negligent handling of the enclosed personal secret numbers.

The immobilizers is exclusively designed to hinder or obstruct theft of the car.

Warranty certificate

You should fill in this card in case of warranty and send it back with your receipt and the faulty set.

Serial number of the set:

.....

Was built in this type of vehicle:

.....

Name and address of the specialized garage:

.....

.....

.....

Description of mistake:

.....

.....

.....

.....

.....



Installation certificate

Immobilizer details

Manufacturer: **ABS** Gesellschaft für Automatisierung
Bildverarbeitung und Software mbH

Type: **VOCAL SCW 1** model: **A*/B*/C***
KBA 9673

Serial number:

Vehicle data

Vehicle type:

Vehicle identification number, VIN:

Licence number:

This is to certify that above mentioned equipment was properly built in according to the assembling instructions with following safety features:

- interruption of ignition circuit
- interruption of starter circuit
- interruption of fuel pump circuit
- solenoid valve*/external relay module*

The function of the equipment was checked and the car owner was trained to handle the immobilizer.

stamp of the garage

.....
place/date/signature

.....
signature of the customer

* Delete as applicable



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