

SDD
SilcaDiagnosticDevice

SBB

SW-HYUNDAI[®] -L0 (SDD-SBB)

CODE: D431936XA - VERS. 4.0

GB

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IMPORTANT NOTE: the trade-marks or trade names mentioned in our documentation are the exclusive property of authorized manufactures of lock and users, they nominated only for the purposes of information so that any lock for which our keys are made can be rapidly identified.

SW- PRG. HYUNDAI®-L0 (SDD-SBB)




1



HYUNDAI®

The functions (there are 3 systems, see functions Menu) on these vehicles are:

- Programme new keys (Max number of operational keys = 4 for SYS 1-2/ 2 for SYS 3);
- Delete all keys (and re-programme);
- Reading of the number of keys memorized;
- Read the errors present.
- Programme remote controls (for Tucson model)
- Delete remote controls (for Tucson model)

To make use of this function, use:

	 <p style="text-align: center;">SWITCH ADAPTER</p>
 <p style="text-align: center;">CABLE OBD II [00] (STANDARD)</p>	<p style="text-align: center;">PIN CODE</p> <p>(Required for SYS 1 e 2) (Not required for SYS 3)</p> <p style="text-align: center;">SYS 1</p> <p>4 digit numerical code: - or last 4 numbers of the chassis - or 0000 - or 2345</p> <p style="text-align: center;">SYS 2</p> <p>6 digit numerical code issued by an authorized dealer against the vehicle chassis number</p>
<p style="text-align: center;">SYS 1 e 2</p> <p>New and/or Old Keys (Max 4) (all those to be enabled)</p> <p style="text-align: center;">SYS 3</p> <p>New and/or Old Keys (Max 2) (all those to be enabled)</p>	

SBB	CABLE/ADAPTER
	 <p style="text-align: center;">CABLE OBD II [00] (STANDARD)</p>

WHERE TO FIND THE PLUG DIAGNOSTICS



SYS 1 =

NOTE:

If the PIN CODE is wrong the display will not show an error message and the procedure may be concluded. Only at the end if the key does not work will it be known that the PIN CODE was wrong. Repeat the procedure using another PIN CODE.

2

HYUNDAI® IMMOBILIZER

SELECT CAR MODEL

There are 3 different immobilizer systems for HYUNDAI®, according to the model/year of the vehicle:

SYSTEM 1

Fixed code key system, this system is used to add keys through a manual procedure with a master key (see HELP F1 and F3 in Operating Manual), or by connecting to a diagnostic input with SDD/SBB (the PIN CODE is required).

The following is necessary for programming:

MANUAL PROGRAMMING	SDD/SBB PROGRAMMING
<ul style="list-style-type: none">- Master key (purple)- New key to be programmed- All the keys to be used	<ul style="list-style-type: none">- PIN CODE (see key programming)- New key to be programmed- All the keys to be used

SYSTEM 2

Crypto key code system (blue keys).

The following is necessary for programming:

SDD/SBB PROGRAMMING
<ul style="list-style-type: none">- PIN CODE (see key programming)- New key to be programmed- All the keys to be used

SYSTEM 3

Crypto key code system (green keys).

The following is necessary for programming:

SDD/SBB PROGRAMMING
<ul style="list-style-type: none">- 2 keys to be programmed- All the keys to be used

In this case SDD/SBB is able to automatically detect the various immobilizer systems and use the correct communication procedure for each one.

Simply identify:

- CAR MODEL
- YEAR OF MANUFACTURE

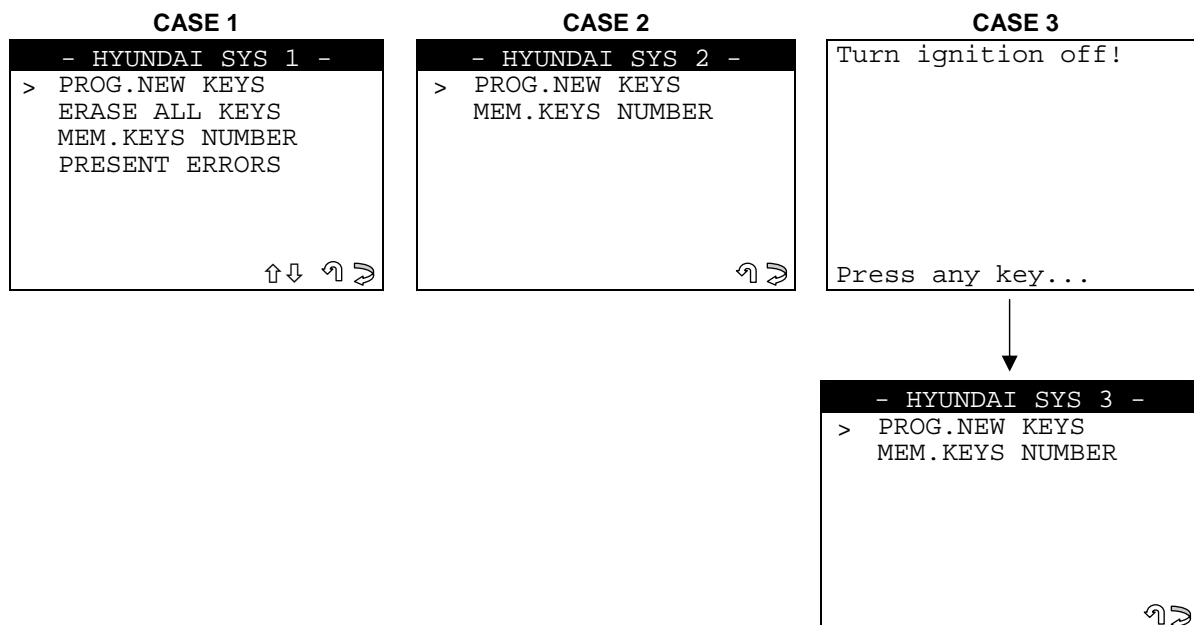
- HYUNDAI -	
ACCENT	(96-99)
ACCENT	(99-)
> ATOS	(98-)
ATOS PRIME	(00-)
COUPÉ	(96-)
GALLOPER	(99-)
↑↓↔↵	

- Use the arrow keys ↑ ↓ to select the model, then press **ENTER**;
- Press **ESC** to quit.

FUNCTIONS MENU IMMOBILIZER

The HYUNDAI® IMMOBILIZER functions menu is structured as follows:

there is a key already in the ignition block, turned to the **ON position**. According to the car model selected, the display will show:



- Select and press **ENTER**.

2.1 HYUNDAI® IMMOBILIZER SYS 1

The operations that can be carried out with this type of immobilizer system are:

- Programming of new keys in the immobilizer even when none of the original keys are available;
- Erase the code for a missing key from the immobilizer memory;
- Reading of any anomalies memorized in the immobilizer;
- Reading of the number of keys memorized in the immobilizer central unit.

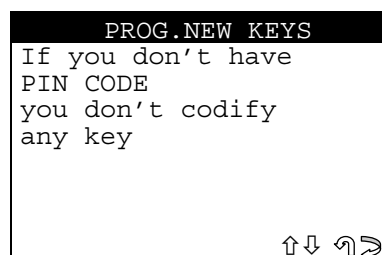
ATTENTION: the structure of the programming system requires that with each programming session all the keys to be used on the vehicle (max. 4) be re-memorized. It is not possible to add or delete just one key individually. A manual procedure can be used to programme the keys, and this is described in the HELP F1 and F3 in the Operating Manual (the purple key is required).

2.1.1 PROGRAMMING NEW KEYS

This function is used to add new keys to the immobilizer, or delete them.

To activate the function, select "**PROG. NEW KEYS**" and press **ENTER**.

The display will show:



PIN CODE: the code to enter is the last 4 digits of the chassis number, or 0000, or 2345.

- Press **ESC** to quit;
- Press **ENTER** to continue.

```
- DATES INSERTION -  
PIN CODE           : XXXX  
  
↩
```

- Enter the **PIN CODE**;
- Press **ESC** to quit;
- Press **ENTER** to continue.

This starts programming of the keys in the vehicle.

If the wrong PIN has been entered, the display will show an **error message** (see chapter WARNING/ERROR MESSAGES in the Operating Manual). Check that the right model has been selected, or make sure that the PIN CODE is correct.

If the PIN is correct the display will show:

```
Insert the new key,  
turn ignition on!  
  
Press any key...
```

- Fit the new key to be programmed. **Make sure that the key to be programmed is the right one;**
- Turn the key to the **ON position**;
- Press any key to continue.

```
The key 1  
has been stored  
  
Press any key...
```

- Press any key to continue.

```
Insert keys to be  
programmed in  
sequence and turn  
them ON and OFF for  
5 sec respectively.  
Then start engine  
for some seconds  
  
Press any key...
```

- Fit the remaining keys to be programmed, including the existing ones (customer's keys);
- Turn them to the **ON position** for 5 sec. then to the **OFF position**;
- **Keys not programmed in this way will not work in the vehicle;**
- To end the programming procedure, start the engine for a few seconds.

ATTENTION: put the vehicle in neutral gear and pull the hand brake.

KEY TESTING

ATTENTION: to check whether the programmed keys work, make a vehicle ignition test for each key memorized (wait one minute between starts). If one or more keys do not start the vehicle, repeat the operation.

- Press any key to continue.

ARCHIVING OPERATIONS - USER DATA

This section is used to enter the User Data relating to the operation carried out, to be saved.

The display will show:

```
Do you want to save
the customer data

NO
>YES

↑↓ ↻
```

- Select **YES/NO** and press **ENTER**;
- **No**, returns to the **HYUNDAI® functions menu** display;
- **Yes**, proceeds with memorizing the data for the operation carried out;
- **ESC** to quit.

The display will show:

```
Do you want to save
PIN CODE?

NO
>YES

↑↓ ↻
```

- Select **YES/NO** and press **ENTER**;
- **No**, the data are archived, **except for the PIN CODE**;
- **Yes**, all user data are archived.

USER DATA ARCHIVE

This section is used to enter the user data relating to the operation carried out, to be saved; the display will show:

```
- USER DATA -
POS.: 001
DATE: 19/07/01
> SURNAME: XXXXXXXXXXXX
NAME: XXXXXXXXXXXX
REG.NO: XXXXXXXXXXXX

↑↓↔ ↻
```

- SURNAME (required) (**12 characters**);
- NAME/NUMBER PLATE(optional) (**12 characters**).

The following data will be saved automatically:

- **POS.:** Position in which the data will be saved;
- **DATE:** Date of the operation;
- **MAKE:** Car make for which the keys has been memorized;
- **MODEL:** Car for which the keys has been memorized;
- **YEAR:** of the model;
- **Keys mem.:** Number of keys memorized;
- **PIN CODE:** (if memorization is confirmed by the operator);
- **IMMO ID:** Immobilizer identification.

To enter the data:

- Use the ↑↓ keys to position the cursor on the item required;
- Press ⇒ to enter and select the field in which to digit the text.

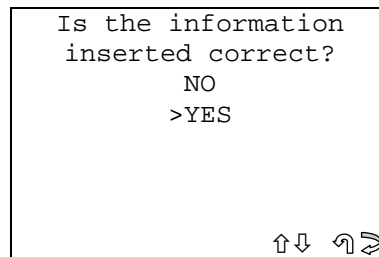
NOTE: to select the letter required, press the corresponding key N times.

The programming capacity of the archive is approx. around 100 users data.

Glossary:

Ô:	Deletes characters to the left of the cursor
1	space - . 1
2	A B C 2 à Á á â Ç
3	D E F 3 è È ë ê
4	G H I 4 ì í î ï
5	J K L 5
6	M N O 6 ò ö ô ó Ñ
7	P Q R S 7 ß
8	T U V 8 ù ü ú
9	W X Y Z 9
0	0

- To quit and memorize the data, press **ESC**.

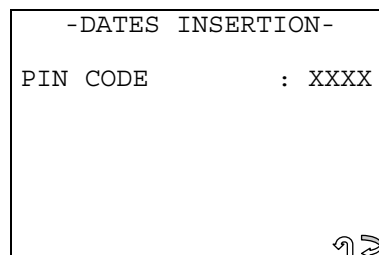


- Select **YES/NO** and press **ENTER**;
- **No**, to return to the data entry screen;
- **Yes**, to store the data in the archive;
- Press **ESC** to quit.

2.1.2 ERASING ALL KEYS

This function is used to erase all the keys in the immobilizer.

- To activate the function, select **"ERASING ALL KEYS"** and press **ENTER**;
- The display will show:



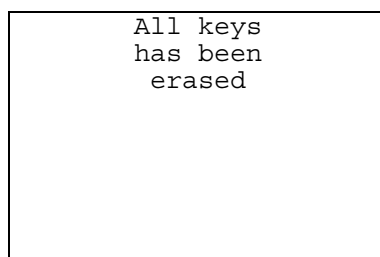
PIN CODE: the code to enter is the last 4 digits of the chassis number, or 0000, or 2345.

- Enter the **PIN CODE**;
- Press **ESC** to quit;
- Press **ENTER** to continue.

This starts programming of the keys in the vehicle.

If the wrong PIN has been entered, the display will show an error message (see chapter WARNING/ERROR MESSAGES in the Operating Manual). Check that the right model has been selected, or make sure that the PIN CODE is correct.

If deletion is successful the display will show:



All keys
has been
erased

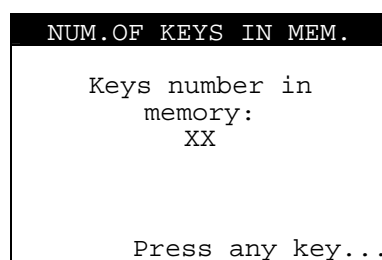
- Press any key to return to the functions menu.

2.1.3 NUMBER OF KEYS MEMORIZED

This function is used to read the keys memorized in the immobilizer.

- To activate the function, select "**NO. KEYS MEM.**" and press **ENTER**.

The display will show:



NUM.OF KEYS IN MEM.
Keys number in
memory:
XX
Press any key...

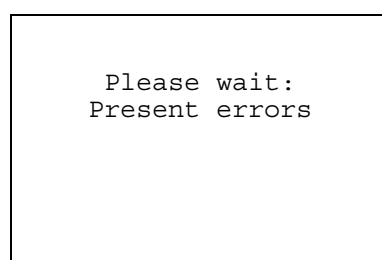
- Press any key to return to the functions menu.

2.1.4 PRESENT ERRORS

This function is used to check any anomalies in the immobilizer.

- To activate the function, select "**PRESENT ERRORS**" and press **ENTER**.

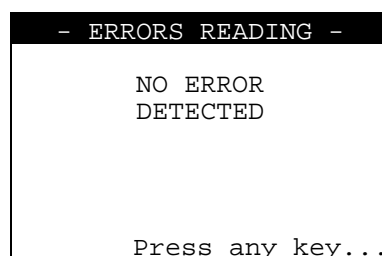
The display will show:



Please wait:
Present errors

NO ERRORS

If there are no anomalies memorized, after a few seconds the display will show:

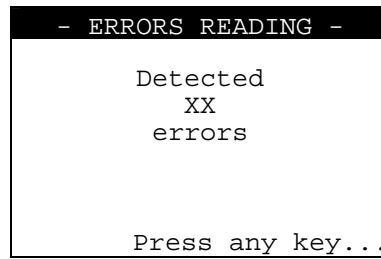


- ERRORS READING -
NO ERROR
DETECTED
Press any key...

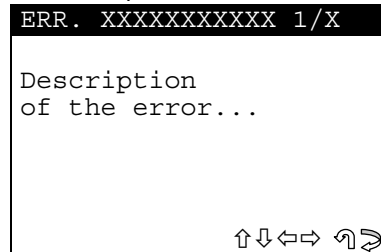
- Press any key to return to the functions menu.

ERRORS FOUND

If anomalies have been memorized, the display will show how many errors (XX) are memorized in the central unit:



- Press any key to view a description of the error:



- **ERR: XXXXXXXXXXXX** error code;
- Press ↑↓↔↵ to scroll all the errors found;
- Select **ESC** to quit (returns to functions menu).

2.2 HYUNDAI® IMMOBILIZER SYS 2

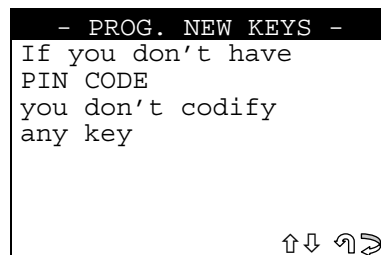
The operations that can be carried out with this type of system are:

- Programming of new keys in the immobilizer even when none of the original keys are available;
- Erase the code for a missing key from immobilizer memory;
- Reading of the number of keys memorized in the immobilizer central unit.

ATTENTION: the structure of the programming system requires that with each programming session all the keys to be used on the vehicle (max. 4) be re-memorized. It is not possible to add or erase just one key individually.

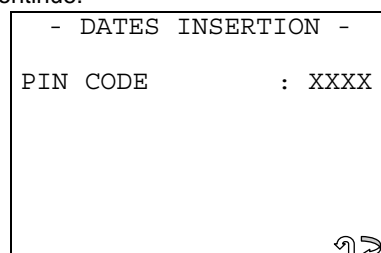
2.2.1 PROGRAMMING NEW KEYS

This function is used to add new keys to the immobilizer or erase them. To activate the function, select "PROG.NEW KEYS" and press **ENTER**. The display will show:



PIN CODE: the code comprises 6 digits and must be obtained exclusively from an authorized dealer, communicating the vehicle chassis number..

- Press **ESC** to quit;
- Press **ENTER** to continue.

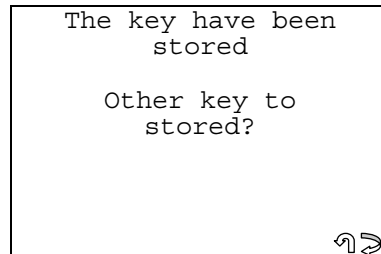


- Enter the **PIN CODE**;
- Press **ESC** to quit;
- Press **ENTER** to continue.

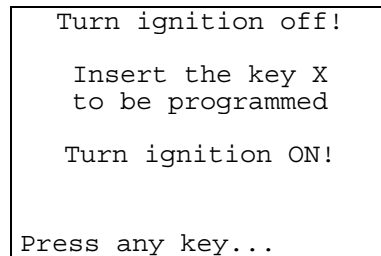
This starts programming of the keys in the vehicle.

If the wrong PIN has been entered, the display will show an error message (see chapter WARNING/ERROR MESSAGES in the Operating Manual). Check that the right model has been selected, or make sure that the PIN CODE is correct.

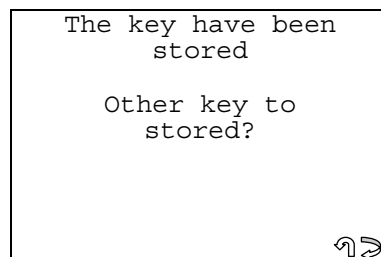
If the PIN is correct, the display will show:



- Select **ESC** to quit (goes to User Data archive);
- Press **ENTER** to programme other keys (max. 4), including existing ones (customer's keys);
- **Keys not programmed in this way will not work in the vehicle.**



- Turn the key to the **OFF position**;
- Fit the second key to be programmed;
- Turn the key to the **ON position**;
- Press any key to continue.



- Press **ENTER** to programme other keys;
- Press **ESC** to quit (goes to User Data archive).

KEY TESTING

ATTENTION: to check whether the programmed keys work, make a vehicle ignition test for each key memorized (wait one minute between starts). If one or more keys do not start the vehicle, repeat the operation.

- Press any key to continue.

ARCHIVING OPERATIONS - USER DATA

This section is used to enter the User Data relating to the operation carried out, to be saved.

The display will show:

```
Do you want to save
the customer data?

      NO
    >SI

      ↑↓ ↶ ↷
```

- Select **YES/NO** and press **ENTER**;
- **No**, returns to the **HYUNDAI® functions menu** display;
- **Yes**, proceeds with memorizing the data for the operation carried out;
- **ESC** to quit.

The display will show:

```
Do you want to save
PIN CODE?

      NO
    >YES

      ↑↓ ↶ ↷
```

- Select **YES/NO** and press **ENTER**;
- **No**, the data are archived, **except for the PIN CODE**;
- **Yes**, all user data are archived.

USER DATA ARCHIVE

This section is used to enter the user data relating to the operation carried out, to be saved; the display will show:

```
- USER DATA -
POS. : 001
DATE : 19/07/01
> SURNAME : XXXXXXXXXXXX
NAME : XXXXXXXXXXXX
REG.NO : XXXXXXXXXXXX

      ↑↓ ⇐ ⇒ ↶ ↷
```

- SURNAME (required) (**12 characters**);
- NAME/NUMBER PLATE (optional) (**12 characters**).

The following data will be saved automatically:

- **POS.:** Position in which the data will be saved;
- **DATE:** Date of the operation;
- **MAKE:** Car make for which the keys has been memorized;
- **MODEL:** Car for which the keys has been memorized;
- **YEAR:** of the model;
- **Keys mem.:** Number of keys memorized;
- **PIN CODE:** (if memorization is confirmed by the operator);
- **IMMO ID:** Immobilizer identification.

To enter the data:

- Use the ↑↓ keys to position the cursor on the item required;
- Press ⇒ to enter and select the field in which to digit the text.

NOTE: to select the letter required, press the corresponding key N times.

The programming capacity of the archive is approx. around 100 users data.

Glossary:

Ô:	Deletes characters to the left of the cursor
1	space - . 1
2	A B C 2 à Ä á â Ç
3	D E F 3 è È ë ê
4	G H I 4 ì í î ï
5	J K L 5
6	M N O 6 ò ö ô ó Ñ
7	P Q R S 7 ß
8	T U V 8 ù ü ú
9	W X Y Z 9
0	0

- To quit and memorize the data, press **ESC**.

Is the information
inserted correct?

NO
>YES

↑↓⇒

- Select **YES/NO** and press **ENTER**;
- **No**, to return to the data entry screen;
- **Yes**, to store the data in the archive;
- Press **ESC** to quit.

2.2.2 NUMBER OF KEYS MEMORIZED

This function is used to read the keys memorized in the immobilizer.

- To activate the function, select "**NO. KEYS MEM.**" and press **ENTER**;

The display will show:

NUM.OF KEYS IN MEM.

Keys number in
memory::
XX

Press any key...

- Press any key to return to the functions menu.

2.3

HYUNDAI® IMMOBILIZER SYS 3

The operations that can be carried out with this type of system are:

- Programming of new keys in the immobilizer even when none of the original keys are available;
- Erase the code for a missing key from immobilizer memory;
- Reading of the number of keys memorized in the immobilizer central unit.

ATTENTION: the structure of the programming system requires that with each programming session all the keys to be used on the vehicle (max. 4) be re-memorized. It is not possible to add or delete just one key individually.

2.3.1

PROGRAMMING NEW KEYS

This function is used to add new keys to the immobilizer or delete them.

To activate the function, select "**PROG. NEW KEYS**" and press **ENTER**.

The display will show:

Maximum amount
of keys: 2

Press any key...

This starts programming of the keys in the vehicle, **ONLY 2 KEYS CAN BE USED**. The horn will sound for an instant.

- Press any key to continue.

Turn ignition on!

Press any key...

- Turn the key to the **ON position**.

Turn ignition off!

Press any key...

- Turn the key to the **OFF position**;
- Press any key to continue.

Insert keys to be
programmed in
sequence and turn
them ON and OFF for
5 sec respectively.

- Fit the first key to be programmed;
- Turn to the **ON position** and leave for 5 seconds;
- Turn the key to the **OFF position**;
- Fit the second key to be programmed;
- Turn to the **ON position** and leave for 5 seconds;
- Turn the key to the **OFF position**.

If errors have occurred during programming, the display will show **error message No. 5** (see chapter WARNING/ERROR MESSAGES in the Operating Manual).

If the procedure has been carried out successfully, the horn will sound for an instant.

The display will show:

If the warning light
on the console is
blinking repeat the
procedure because an
error with the keys
has occurred

Press any key...

KEY TESTING

ATTENTION: to check whether the memorized keys work, make a vehicle ignition test for each key (wait one minute between starts). If one or more keys do not start the vehicle, repeat the operation.

- Press any key to continue.

ARCHIVING OPERATIONS - USER DATA

This section is used to enter the User Data relating to the operation carried out, to be saved.

The display will show:

Do you want to save
the customer data?

NO
>YES

↶ ↑↓ ➤

- Select **YES/NO** and press **ENTER**;
- **No**, returns to the **HYUNDAI® functions menu** display;
- **Yes**, proceeds with memorizing the data for the operation carried out;
- **ESC** to quit.

The display will show:

Do you want to save
PIN CODE?

NO
>YES

↑↓ ➤

- Select **YES/NO** and press **ENTER**;
- **No**, the data are archived, **except for the PIN CODE**;
- **Yes**, all user data are archived.

USER DATA ARCHIVE

This section is used to enter the user data relating to the operation carried out, to be saved.
The display will show:

```

- USER DATA -
POS.: 001
DATE: 19/07/01
> SURNAME: XXXXXXXXXXXX
NAME: XXXXXXXXXXXX
REG.NO: XXXXXXXXXXXX

↑↓⇒↵
  
```

- SURNAME (required) (**12 characters**);
- NAME/NUMBER PLATE (optional) (**12 characters**).

The following data will be saved automatically:

- **POS.:** Position in which the data will be saved;
- **DATE:** Date of the operation;
- **MAKE:** Car make for which the keys has been memorized;
- **MODEL:** Car for which the keys has been memorized;
- **YEAR:** of the model;
- **Keys mem.:** Number of keys memorized;
- **PIN CODE:** (if memorization is confirmed by the operator);
- **IMMO ID:** Immobilizer identification.

To enter the data:

- Use the ↑↓ keys to position the cursor on the item required;
- Press ⇒ to enter and select the field in which to digit the text.

NOTE: to select the letter required, press the corresponding key N times.

The programming capacity of the archive is approx. around 100 users data.

Glossary:

Ô:	Deletes characters to the left of the cursor
1	space - . 1
2	A B C 2 à Ä á â Ç
3	D E F 3 è È ë ê
4	G H I 4 ì î í
5	J K L 5
6	M N O 6 ò ö ô ó Ñ
7	P Q R S 7 ß
8	T U V 8 ù û ü ú
9	W X Y Z 9
0	0

- To quit and memorize the data, press **ESC**.

```

Is the information
inserted correct?
NO
>YES

↑↓⇒
  
```

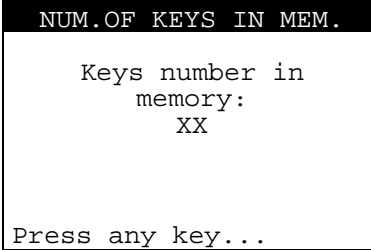
- Select **YES/NO** and press **ENTER**;
- **No**, to return to the data entry screen;
- **Yes**, to store the data in the archive;
- Press **ESC** to quit.

2.3.2 NUMBER OF KEYS MEMORIZED

This function is used to read the keys memorized in the immobilizer.

- To activate the function, select "**NO. KEYS MEM.**" and press **ENTER**.

The display will show:



NUM.OF KEYS IN MEM.
Keys number in
memory:
XX
Press any key...

- Press any key to return to the functions menu.

3

HYUNDAI® REMOTE CONTROLS

SELECTING THE CAR MAKE

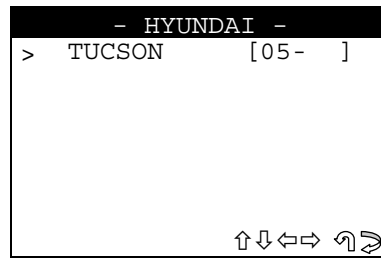
For some vehicle models it is possible to programme/delete not only keys but also their remote controls.

In this case SDD/SBB automatically recognizes the various central control units connected and consequently uses the proper communication procedure.

Simply identify:

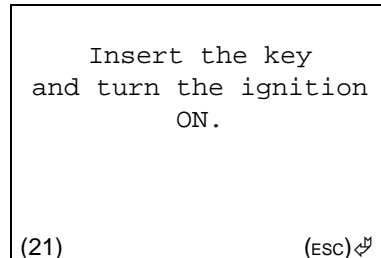
- CAR MODEL
- YEAR OF MANUFACTURE

Select **"REMOTE CONTRLS"** from the main menu, the display will show:

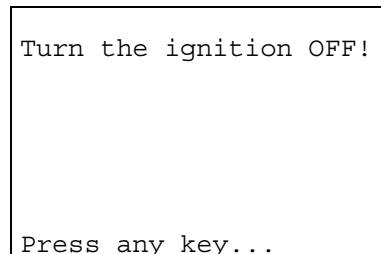


- Use the arrow keys $\uparrow\downarrow$ to select the model, then press **ENTER**;
- Press **ESC** to quit.
- The display will show::

REMOTE CONTROLS FUNCTIONS MENU



- Press **ESC** to quit.
- Insert a key into the ignition block and turn to the **ON** position, press **ENTER**;
- The display will show:



- Turn the key to the **"OFF"** position;
- Press any key to continue;
- The display will show:

PUSH THE
REMOTE CONTROL

- Press any button on the remote control to be programmed.
- If no errors or anomalies occur during programming, the display will show:

THE REMOTE
CONTROL
IS PROGRAMMED

Other remote controls
to store?

(ESC) ↵

- Press **ENTER** to programme other keys.
Press **ESC** to quit (go to the model selection menu).