

Mechanical Design

2 Mechanical Design

The mechanical design of the Service Tool is shown in Figure 2-1.

The Service Tool consists of two rows display with 16 columns each
And a keyboard with 16 keys.

The Tool is connected to the LCB_II over a RS 422 serial communication line.

MCS-LCB_II 调试方法

MCS-LCB_II Service Tool Manual

LCB II – Menu
System=1 Tools=2

Main Level Keys			
No.	Shift Keys	Short Keys	Hex Keys
0	- OFF		
1	- ON		
2	- UP		
3	- DOWN		
4	- DISP IN	-S4	- A
5	- SEL OUT	-S5	- B
6	-	-S6	- C
7	- DISP STATE	-S7	- D
8	- ENT CALL	-S8	- E
9	- TEST	-S9	- F

ENTER
GO BACK
Shift key

Tree Structure

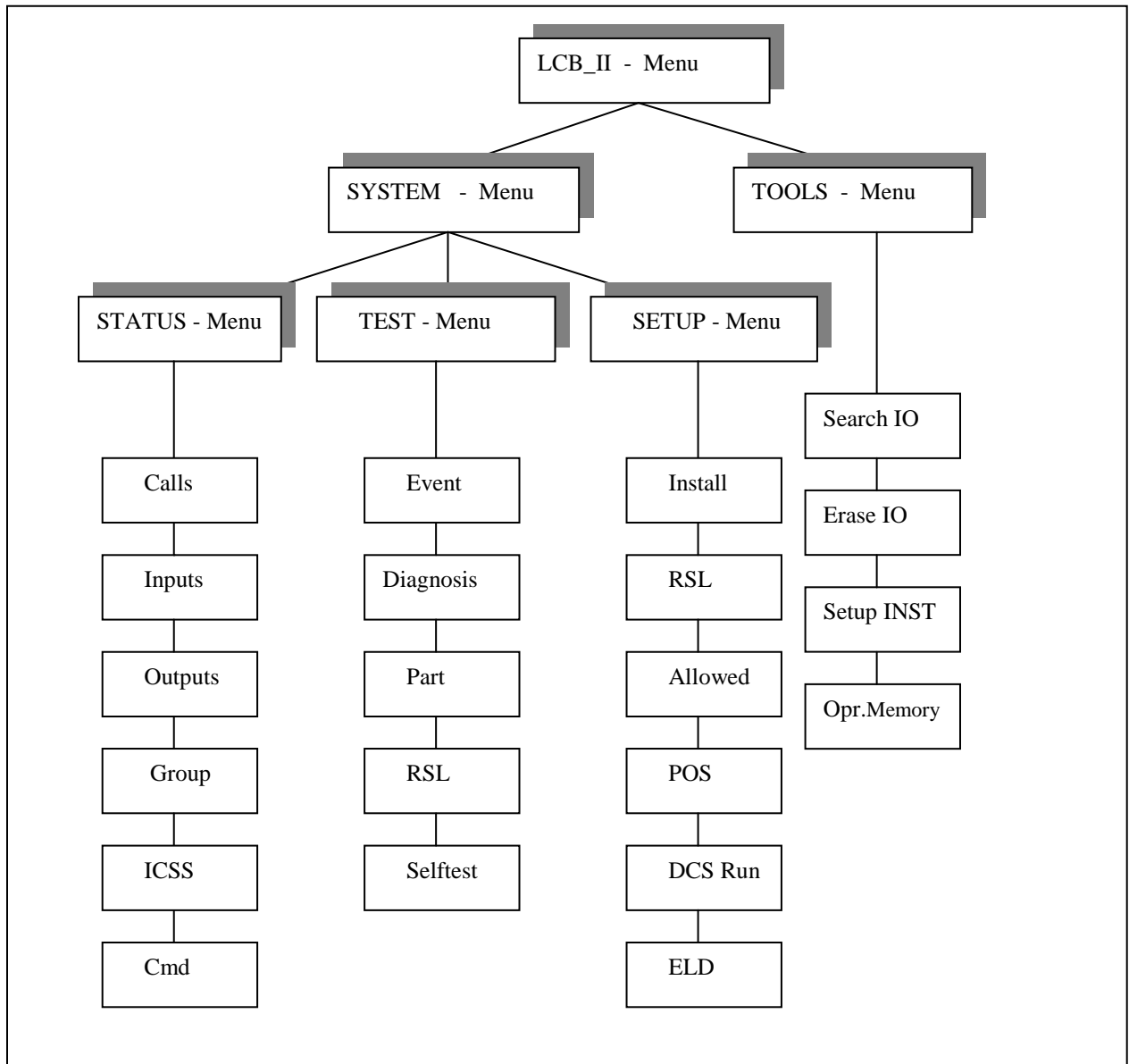
3 Tree Structure

All Service tool functions are organized under the tree –structure – structure Which you can see in **Figure 3-1**.

It is divided in a **SYSTEM** path ,where you have access to the main service Tool functions – **STATUS** (system monitoring)

- **TEST** (event monitoring tests) and
- **SETUP**(setup of system environment),and in a **TOOLS** path.

The **TOOLS** pass contains the Service Tool functions which supports installation and maintenance of the elevator.



Menu System

4 LCB_II Menu System

4.1 *OVERVIEW*

The Menu System allows you to access the single Server Tool functions if you choose the right path through the Tree-Structure by pressing the displayed key.(number **1,2,3... 8**)

If there is only one number to choose .you can call the function also with the Shift Key '**ENTER**'.

You can toggle between the different Menus using the '**GO ON**' or '**GO BACK**' key if the '>' character indicates a hidden menu.

The '**CLEAN**' key lets you jump one step back.

If you want to jump back to the one of the three Main Level of the architecture,(**MONITOR**, **FUNCTION** or **SET**) you can do it with the '**M**','**F**' or '**S**' Main Level Key.

The LCB_II Menu System is shown in **Figure 4 – 1**.

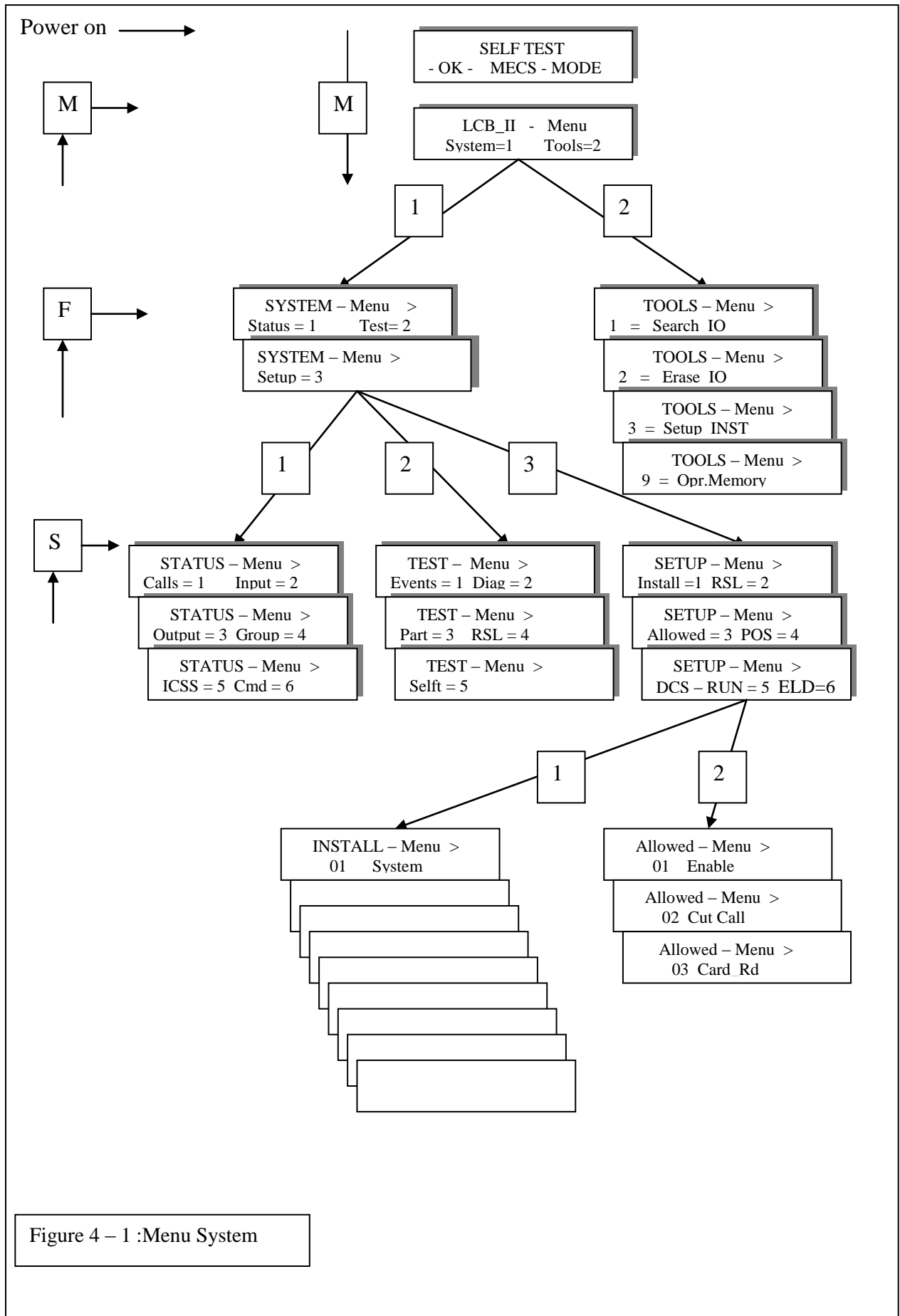
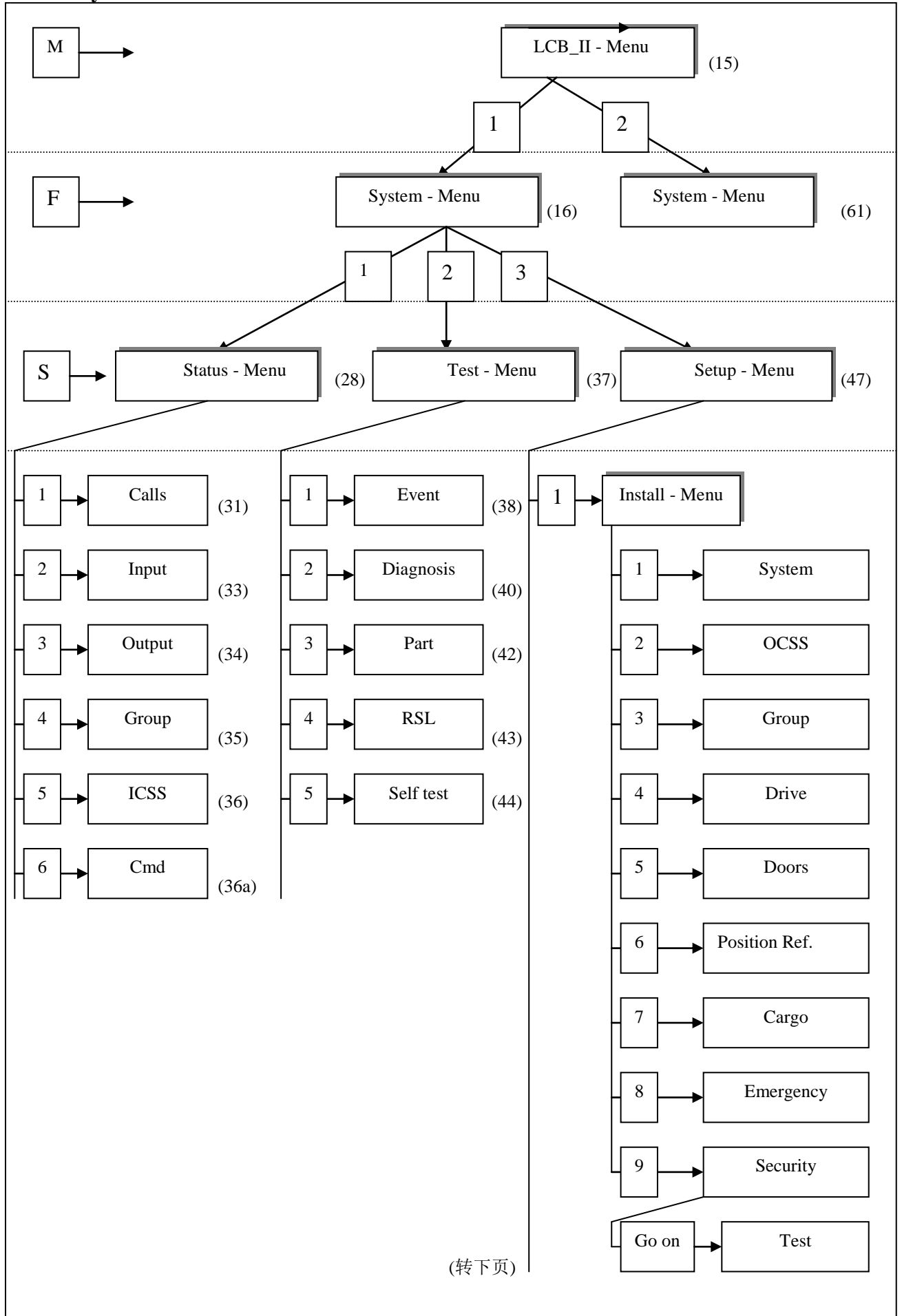
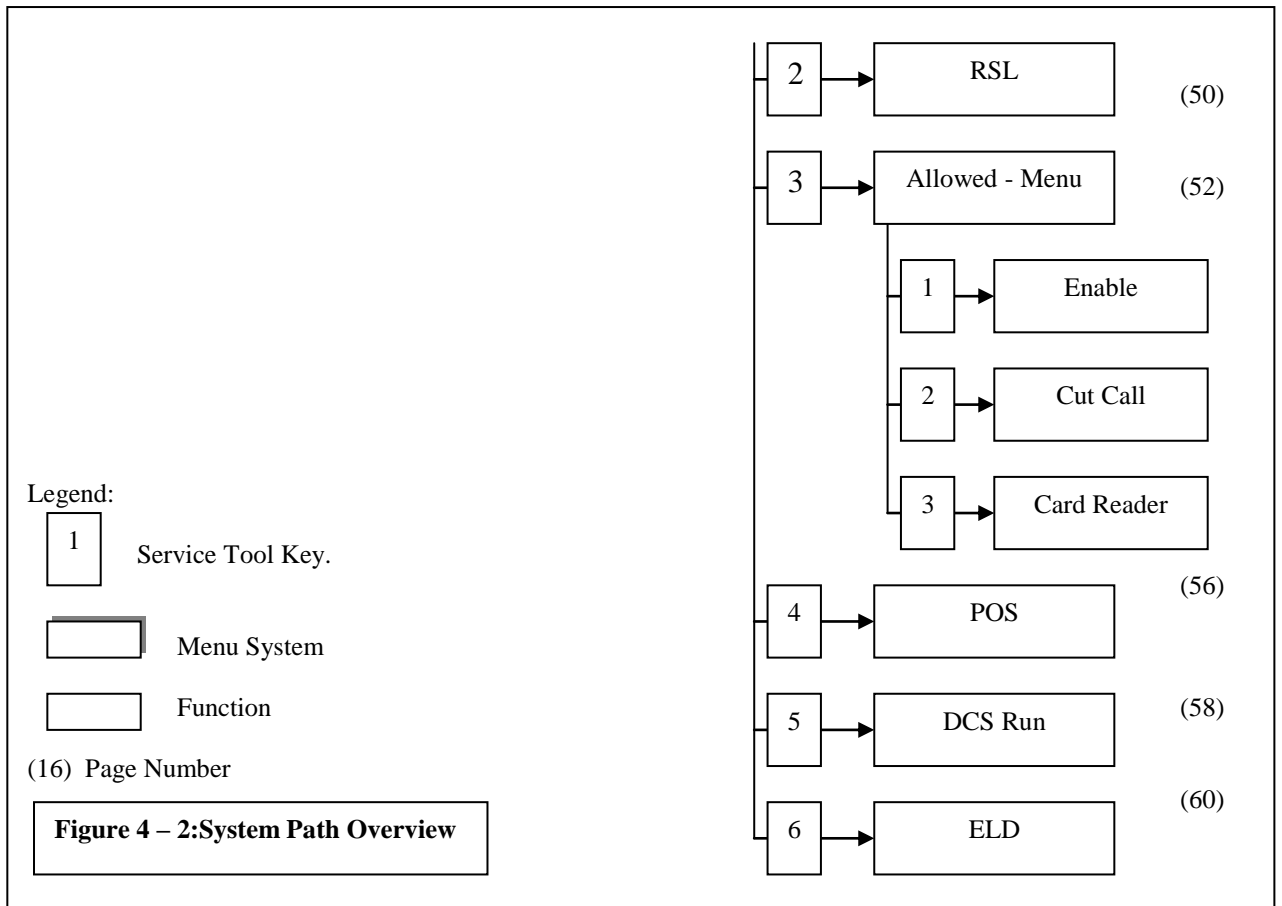


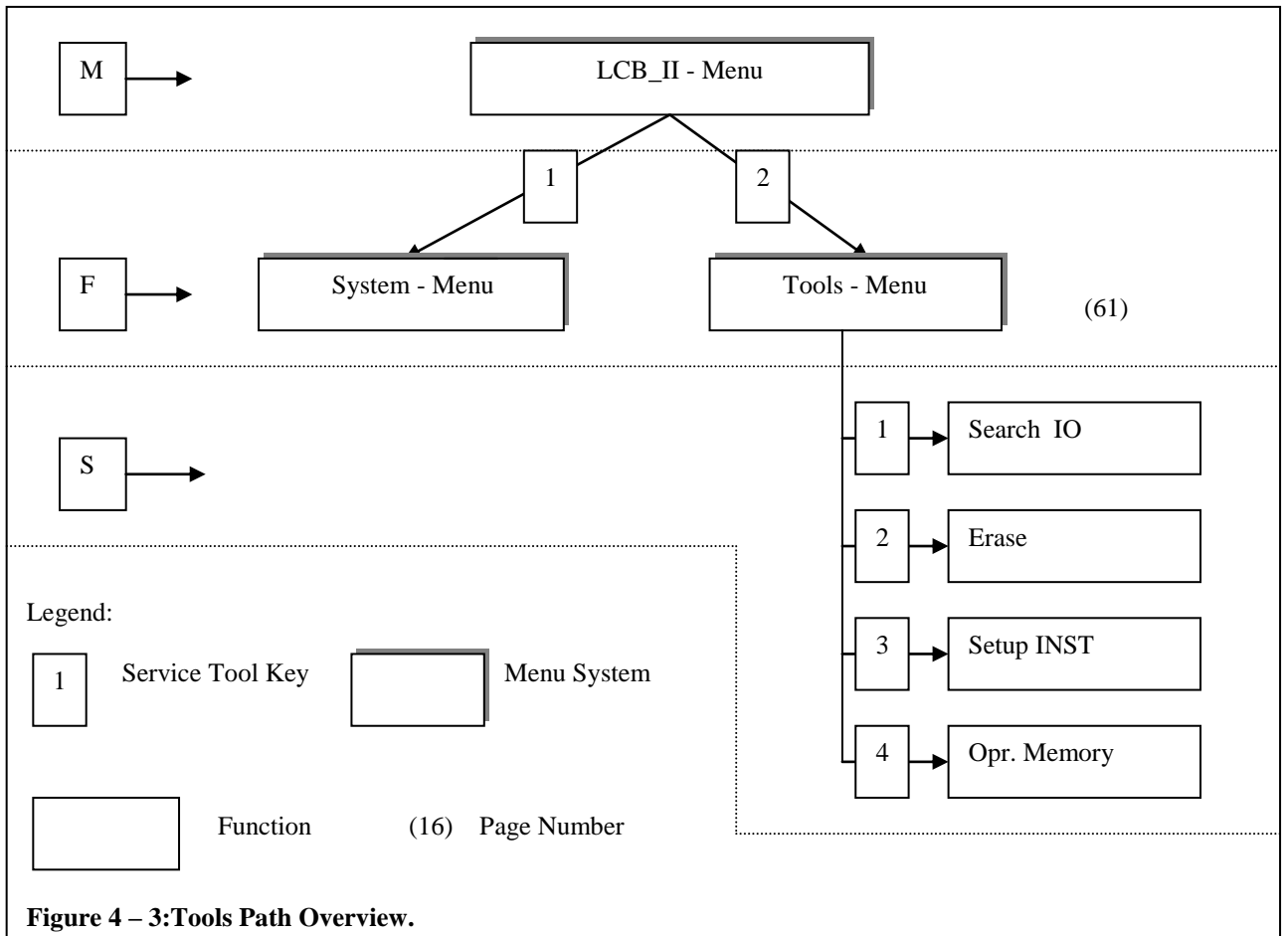
Figure 4 - 1 :Menu System

4.1.1 System Path





4.1.2 Tools Path



4.2 LCB_II – Menus

4.2.1 Power On

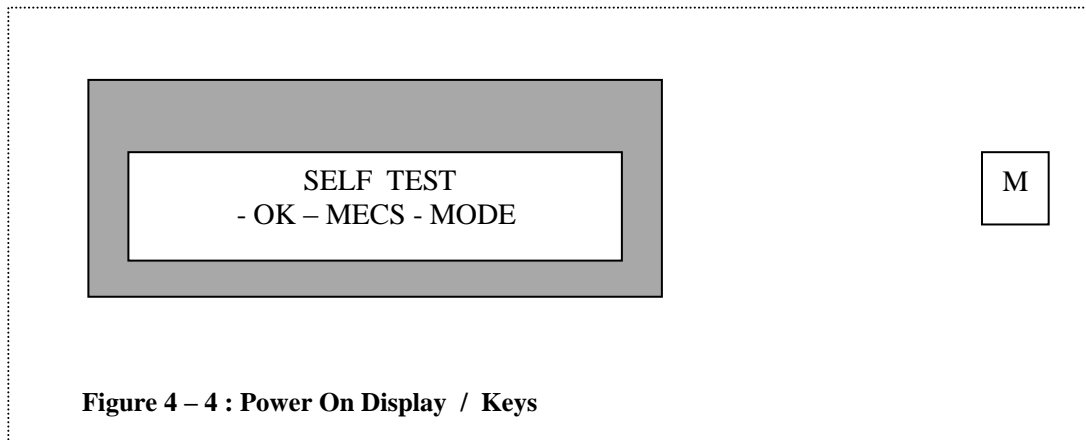
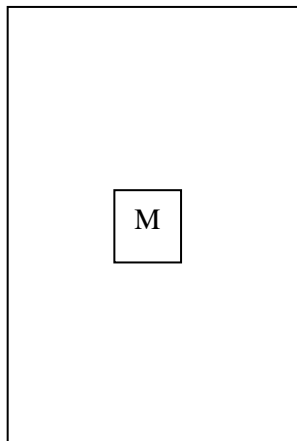


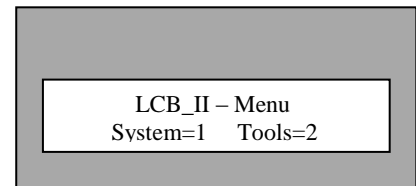
Figure 4 – 4 : Power On Display / Keys



After Power On the Service Tool software runs an internal selftest.

The display shown in **figure 4 – 4** indicates a synchronized communication with the LCB_II and a successful selftest. The Service Tool is in operation now.

- Key MODULE:
Transition to the LCB_II – Menu.



4.2.2 LCB_II - Menu

Key Sequence

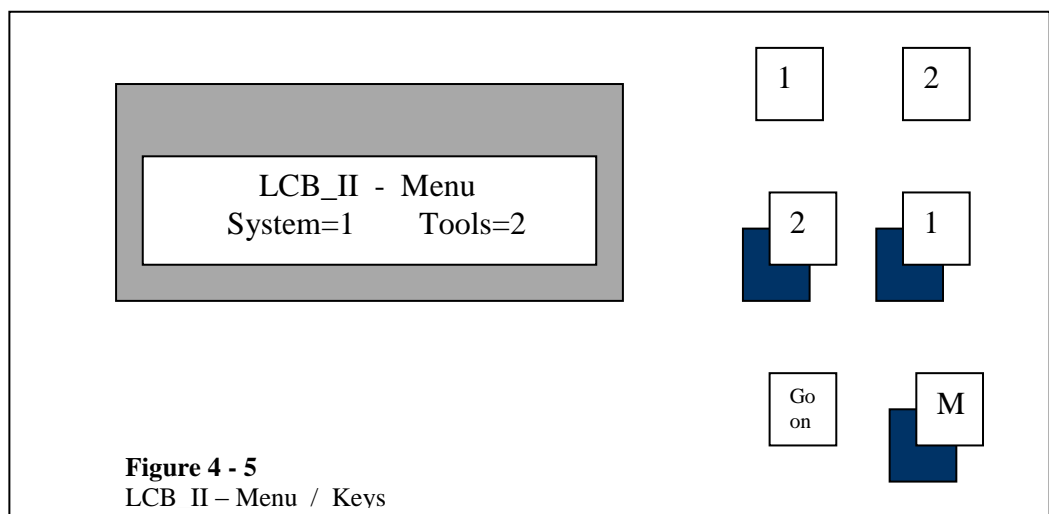
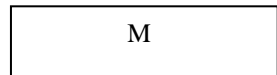
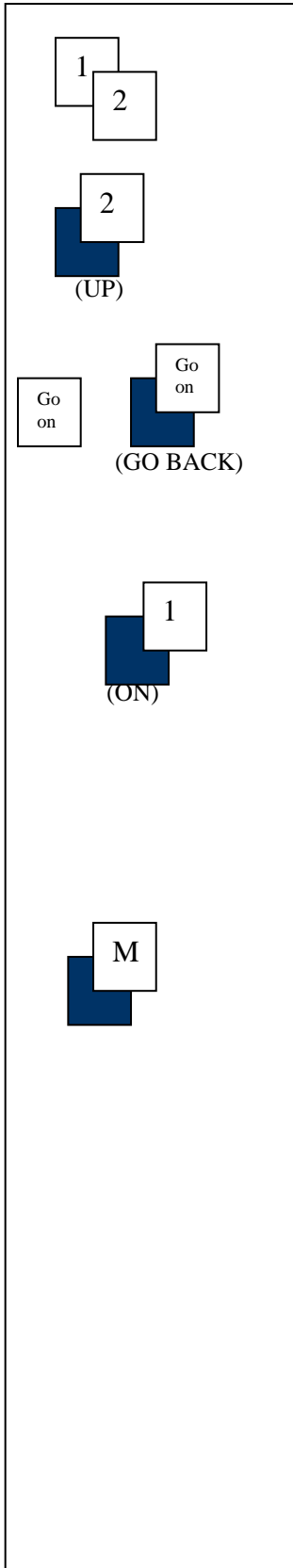
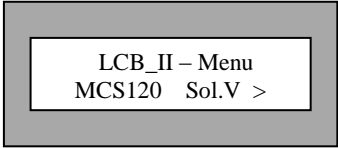


Figure 4 - 5
LCB II – Menu / Keys

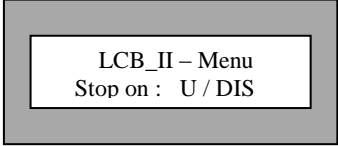


Key 1 : transition to the SYSTEM – Menu
 Key2 : transition to the TOOLS – Menu

shift Key **UP** :display the current
 <toggle key> Controller Type
 and Drive Type.

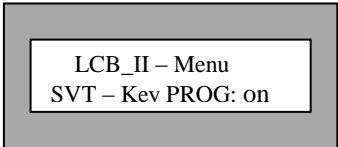


Key **GO ON** :displays the current
 <toggle key> stop signal(s)



(see document : Service Tool
 reference List / Info Messages)

Shift key **ON**: displays the current
 state of the
 programmable
 Short Key S9



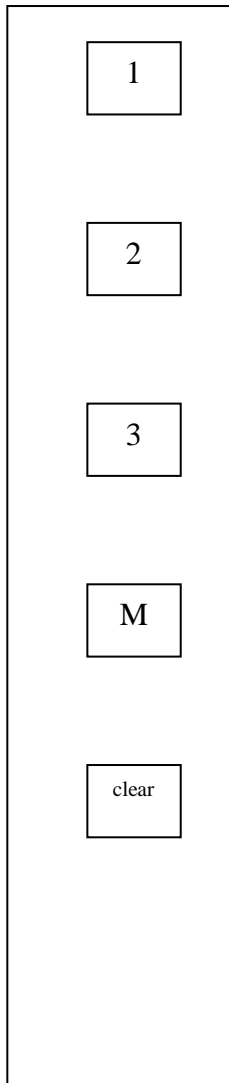
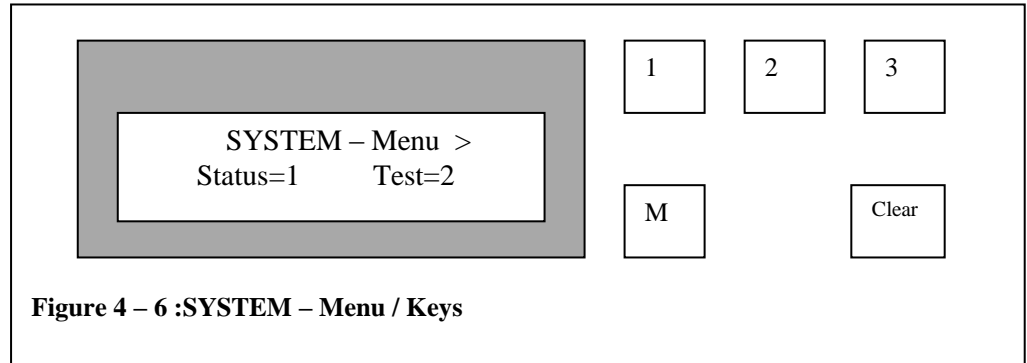
Shift key **OFF**: removes display
See:4.3 Short Keys

Shift key and **MONITOR**:
 Displays the revision and date of
 the Service Tool Firmware.



4.2.3 SYSTEM - Menu

Key Sequence M - 1



- Key 1: Transition to the **STATUS** – Menu

- Key 2: Transition to the **TEST** – Menu

- Key 3: Transition to the **SETUP** – Menu

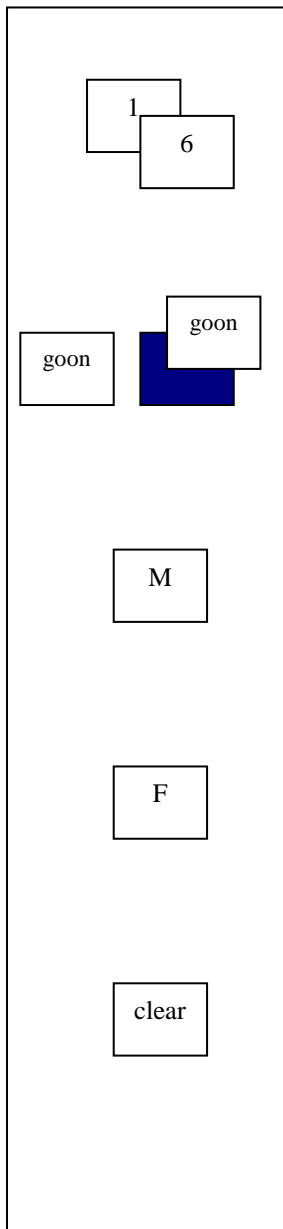
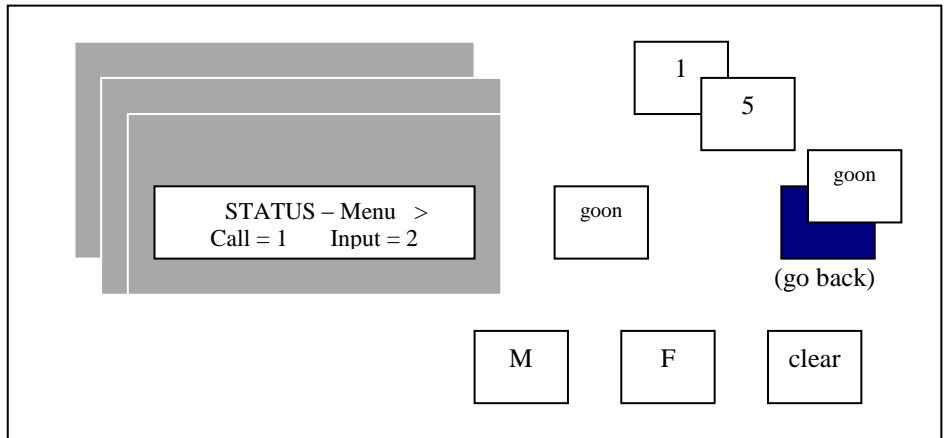
- Key **MODULE**: back to **LCB_II** – Menu
(level **M**)

- Key **CLEAR**: back to **LCB_II** – Menu
(one step back)

4.2.4 STATUS – Menu

Key Sequence

M – 1 – 1



- **Key1** or **Key2**: Call of service Tool function **Calls** or **input**.
- **Key3** or **Key4**: Call of service Tool function **Output** or **Group**.
- **Key5**: Call of service Tool function **ICSS**.
- **Key6**: Call of service Tool function **Cmd**.

- Key **GOON** / **Shift Key GOBACK**: Toggle through **STATUS – Menu**

notice: ('>' indicates Menu – Toggle)

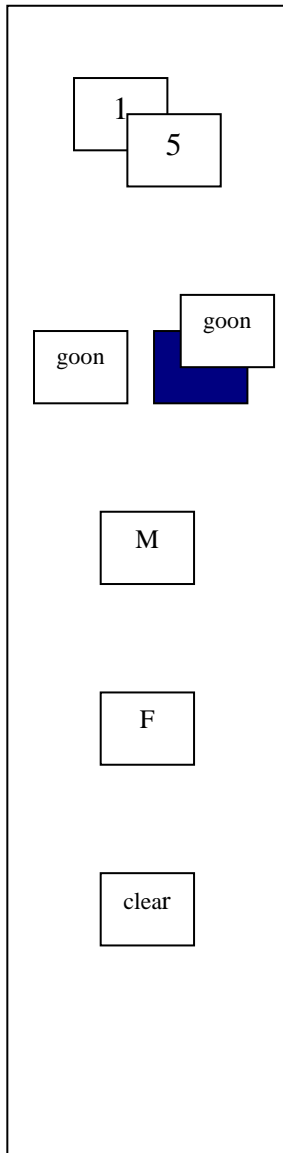
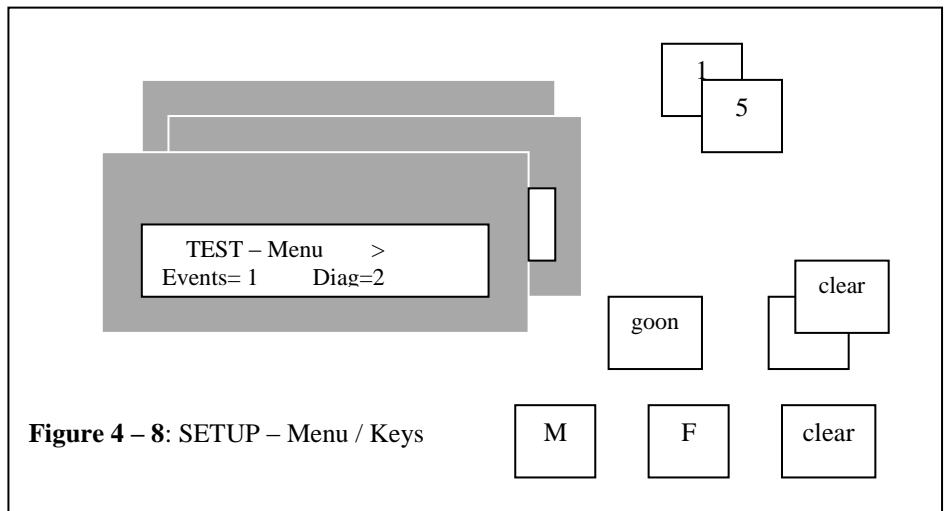
STATUS – Menu >
Output = 3 Group = 4

- Key **MODULE**: back to **LCB_II** Menu (level **M**)
- Key **FUNCTION**: back to **SYSTEM - Menu** (level **F**)
- Key **CLEAR**: back to **SYSTEM - Menu** (one step back)

4.2.5 TEST – Menu

Key Sequence

M – 1 – 2



- Key **1** or **2**: Transition to the **Events – or Diagnosis – Func.**
- Key **3** or **4**: Transition to the **Part – or RSL – Func.**
- Key **5**: Call of Selftest.

- Key **GOON** / Shift Key **GOBACK**:
Toggle though **SETUP - Menu**

notice: ('>' indicates Menu – Toggle)

TEST – Menu >
Part = 3 RSL = 4

- Key **MODULE**: back to **LCB_II – Menu**
(level **M**)

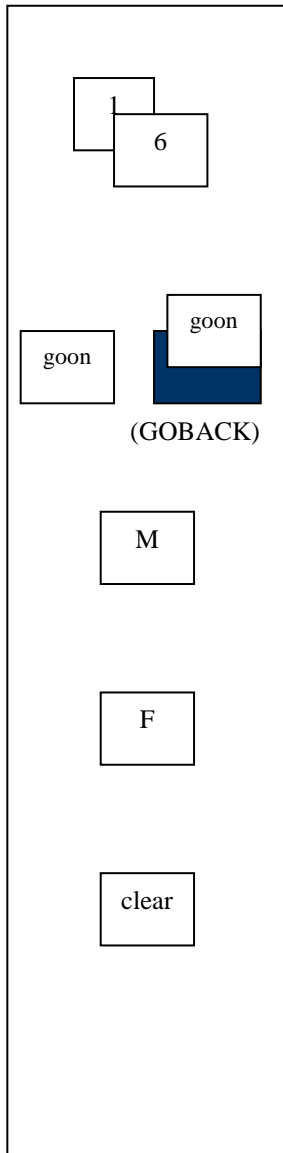
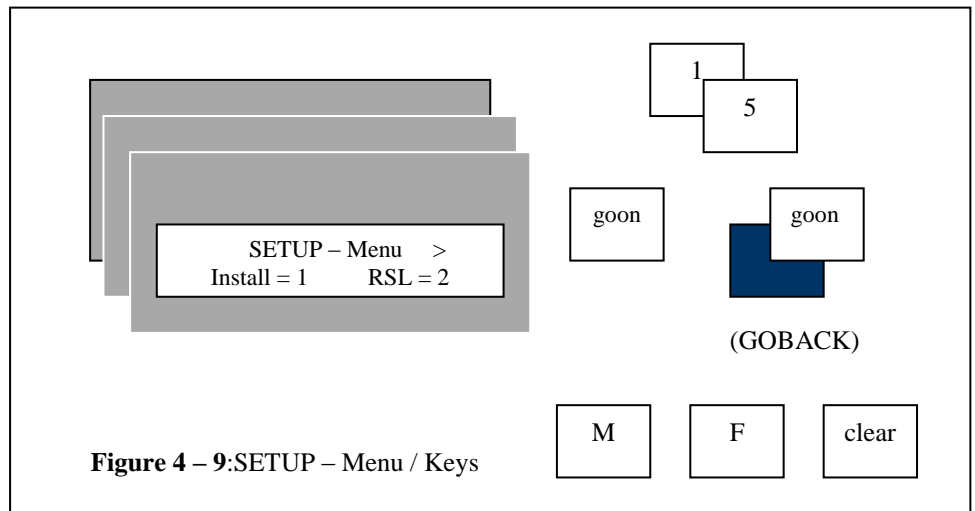
- Key **FUNCTION**: back to **SYSTEM - Menu**
(level **F**)

- Key **CLEAR**: back to **SYSTEM - Menu**
(one step back)

4.2.6 SETUP - Menu

Key Sequence

M - 1 - 3



- Key 1 or 2: Transition to the **INSTALL - Menu** or **RSL - Func.**
- Key 3 or 4: Transition to the **ALLOWED - Menu** or **Pos - Func.**
- Key 5 or 6: Call of Service Tool Function **DCS - Run** or **ELD - Func.**

- Key **GOON** / Shift Key **GOBACK**: Toggle through **SETUP - Menu**

Notice: ('>' indicates Menu - Toggle)

SETUP - Menu >
Allowed = 3 POS = 4

- Key **MODULE**: back to **LCB_II - Menu** (level **M**)

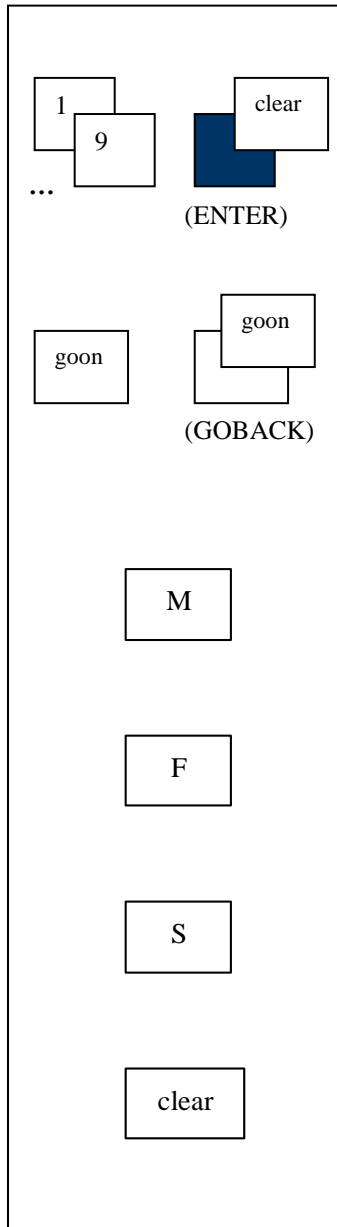
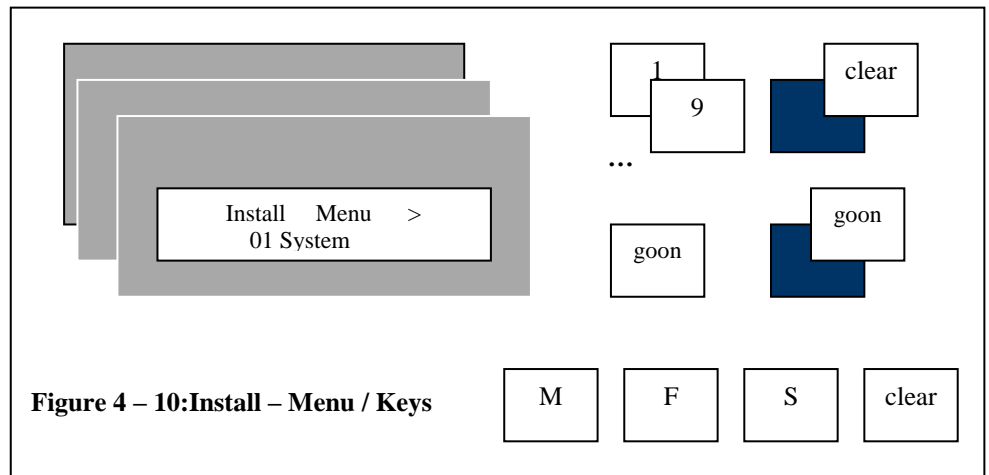
- Key **Function**: back to **System - Menu** (level **F**)

- Key **CLEAR**: back to **System - Menu** (one step back)

4.2.7 Install - Menu

Key Sequence

M - 1 - 3 - 1



- Key ... Key 9: Call of the Service Tool function **INSTALL -SYSTEM ... Install - Security**. (Please call **Install - Test** with **Key ENTER**)
- Shift Key **ENTER**: Call of the displayed Service Tool function.

- Key **GOON** / Shift Key **GOBACK**: Toggle through **INSTALL - Menu**
- notice : ('>' indicates Menu - Toggle)

- Key **MODULE**: back to **LCB_II - Menu** (level **M**)

- Key **FUNCTION**: back to **SYSTEM - Menu** (level **F**)

- Key **SET**: back to **SETUP - Menu** (level **S**)

- Key **CLEAR**: back to **SETUP - Menu** (one step back)

4.2.8 ALLOWED – Menu

Key sequence

M – 1 – 3 - 3

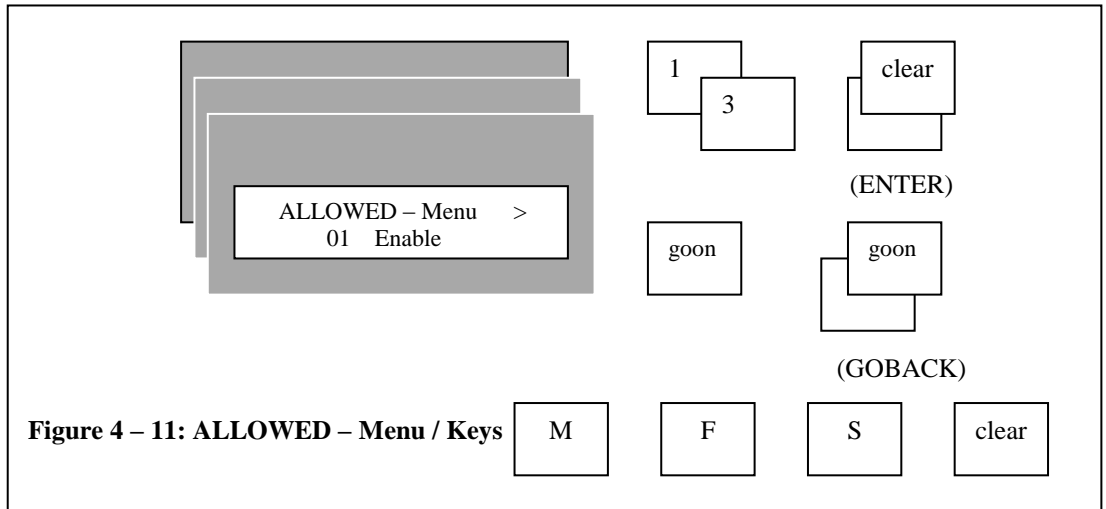
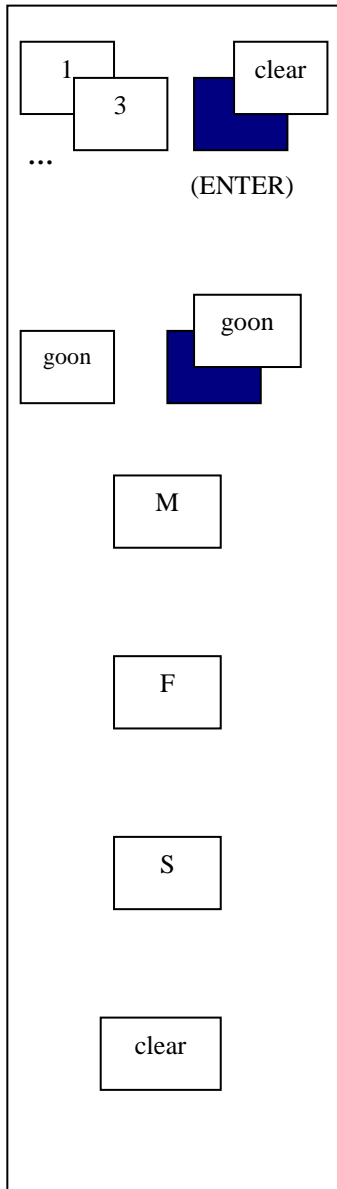


Figure 4 – 11: ALLOWED – Menu / Keys



- **Key 1:** Call of the Service Tool function Allowed - Enable
- ... **Key 3:** ...or the other 2 function of the **ALLOWED - Menu**
- Shift Key **ENTER:** Call of the display Service Tool function

- Key **GOON** / Shift Key **GOBACK:**
Toggle through **ALLOWED - Menu**

- Key **MODULE:** back to **LCB_II – Menu** (level **M**)

- Key **FUNCTION:** back to **SYSTEM – Menu** (level **F**)

- Key **SET:** back to **SETUP_Menu** (level **S**)

- Key **CLEAR:** back to **SETUP_Menu** (one step back)

4.2.9 TOOLS – Menu

Key sequence

M-2

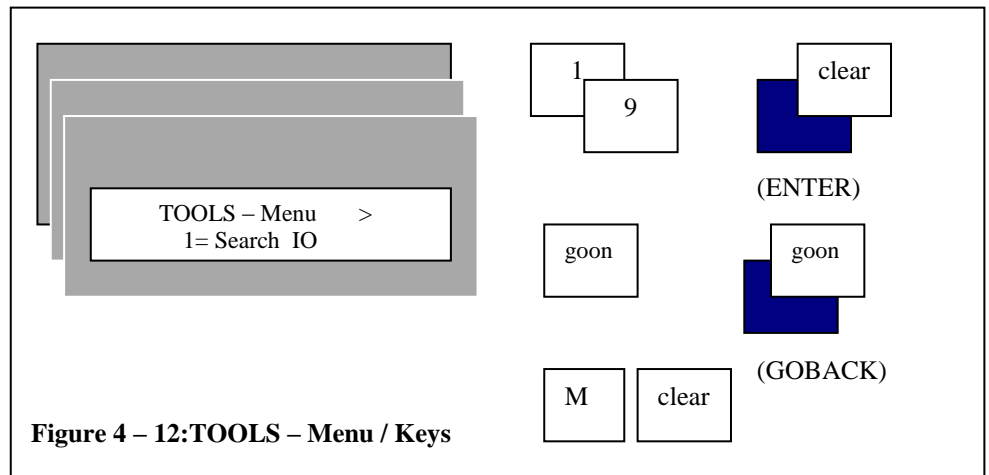
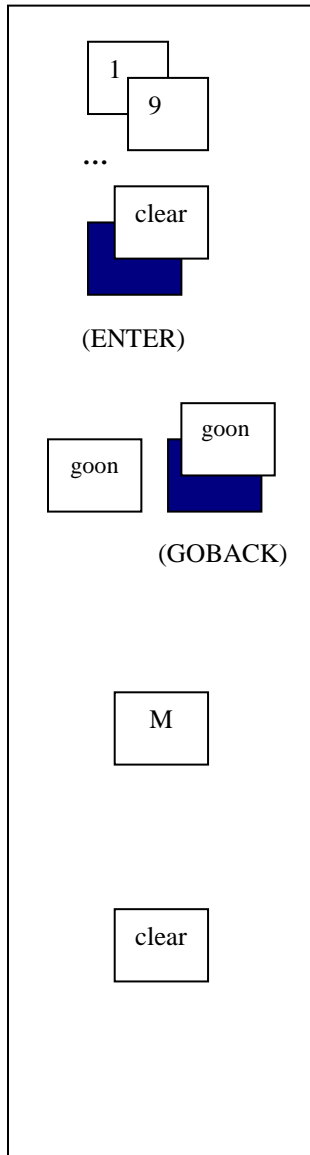


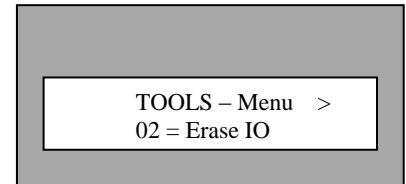
Figure 4 – 12:TOOLS – Menu / Keys



- Key 1: Call of Service Tool function Search IO.
- Key 2,3 or 9: Call function Erase IO, SETUP INST or Opr. Memory

- Shift Key ENTER: Calls the displayed Service Tool function.

- Key GOON / Shift Key GOBACK:
Toggle through TOOLS - Menu
notice: ('>' indicates Menu – Toggle).



- Key MODULE: back to LCB_II – Menu
(level M)

- Key CLEAR: back to LCB_II – Menu
(one step back)

4.3 Short Keys

Short Keys

S4 – S9

The Short Keys provide direct access to certain, often used Service Tool functions, eliminating the need to step through the menu structure.

The Service Tool functions **Input, Call, Install, Alter and Events** are assigned to the Standard Short Keys **S7** (Shift 7), **S8** (Shift 8), **S4** (Shift 4), **S5** (Shift 5) and **S6** (Shift 6).

Short Key **S9** (Shift 9) is a free programmable key to store any position of the Tree – Structure as a sixth Short Key. Once you have stored **S9** (by pressing **S9** at the desired position) you can reset it only on level **M** (**LCB_II – Menu**)

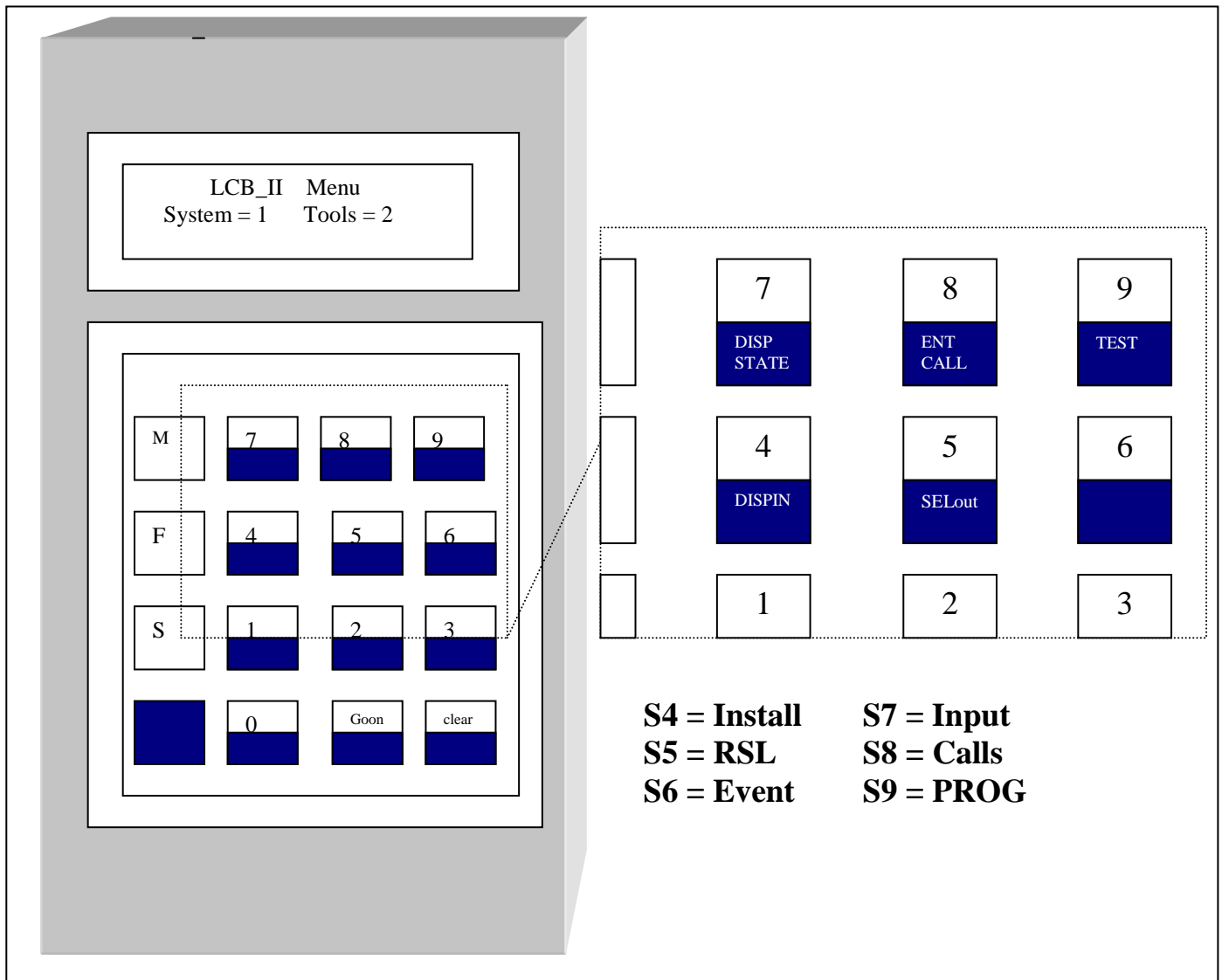


Figure 4 – 13 : Short Keys S4 – S9.

4.3.1 Standard Short Keys

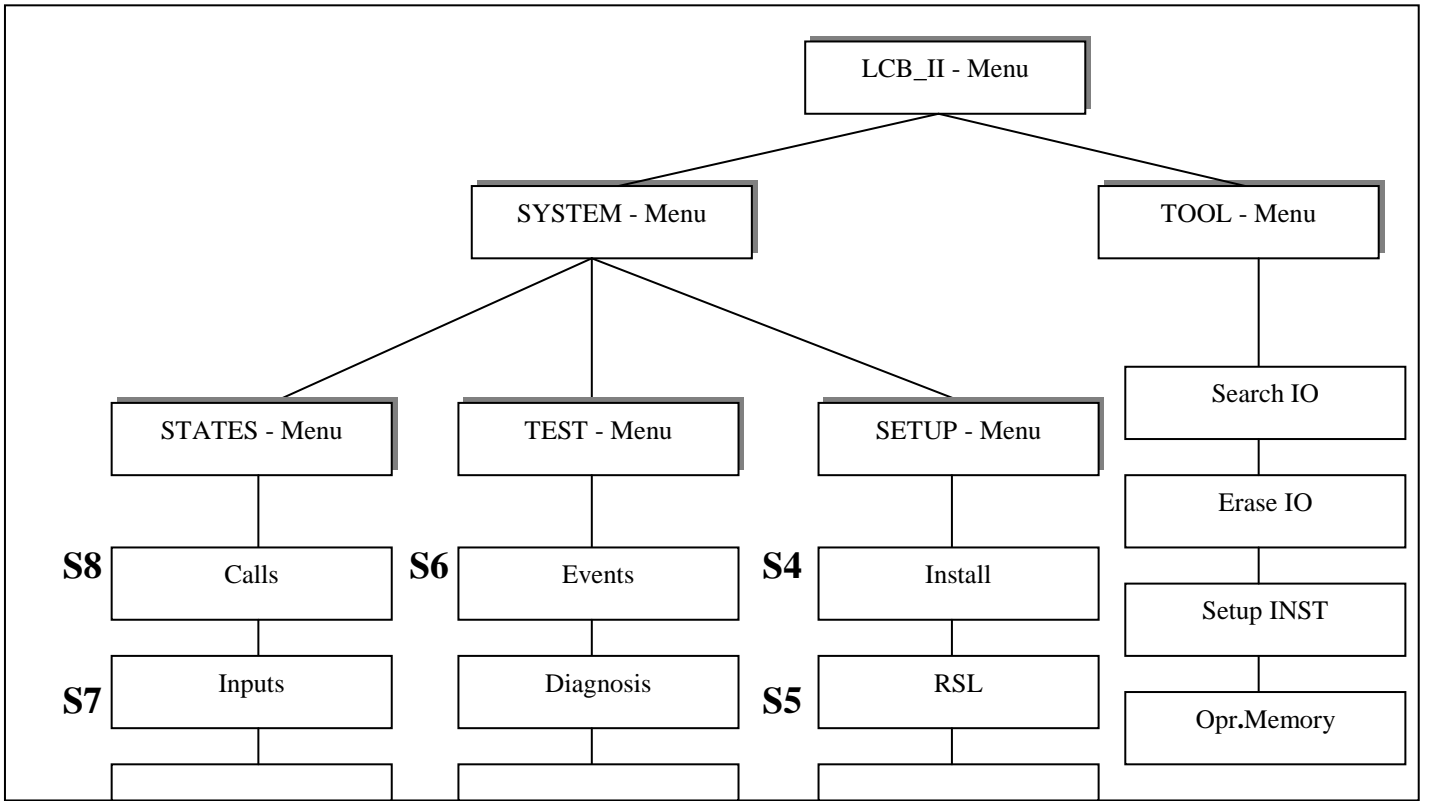
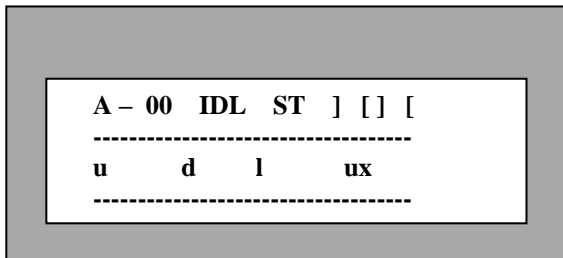
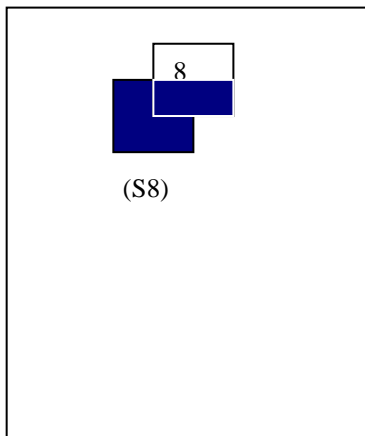


Figure 4 – 14: Standard Short Keys S4, S5, S7, S8 and S9.

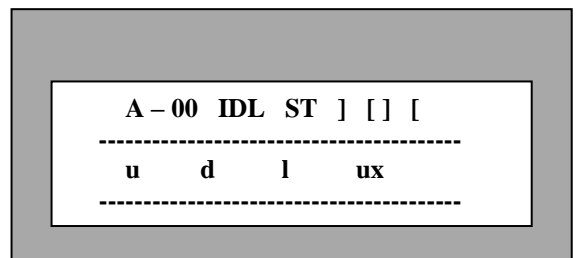
Example:



The current function may be **STATUS / Output**



- Short Key S8: Direct call of function **STATUS / Calls**.
(see chapter: 5.1.2)



4.3.2 Programmable Short Key S9

Short Key

PROG S9

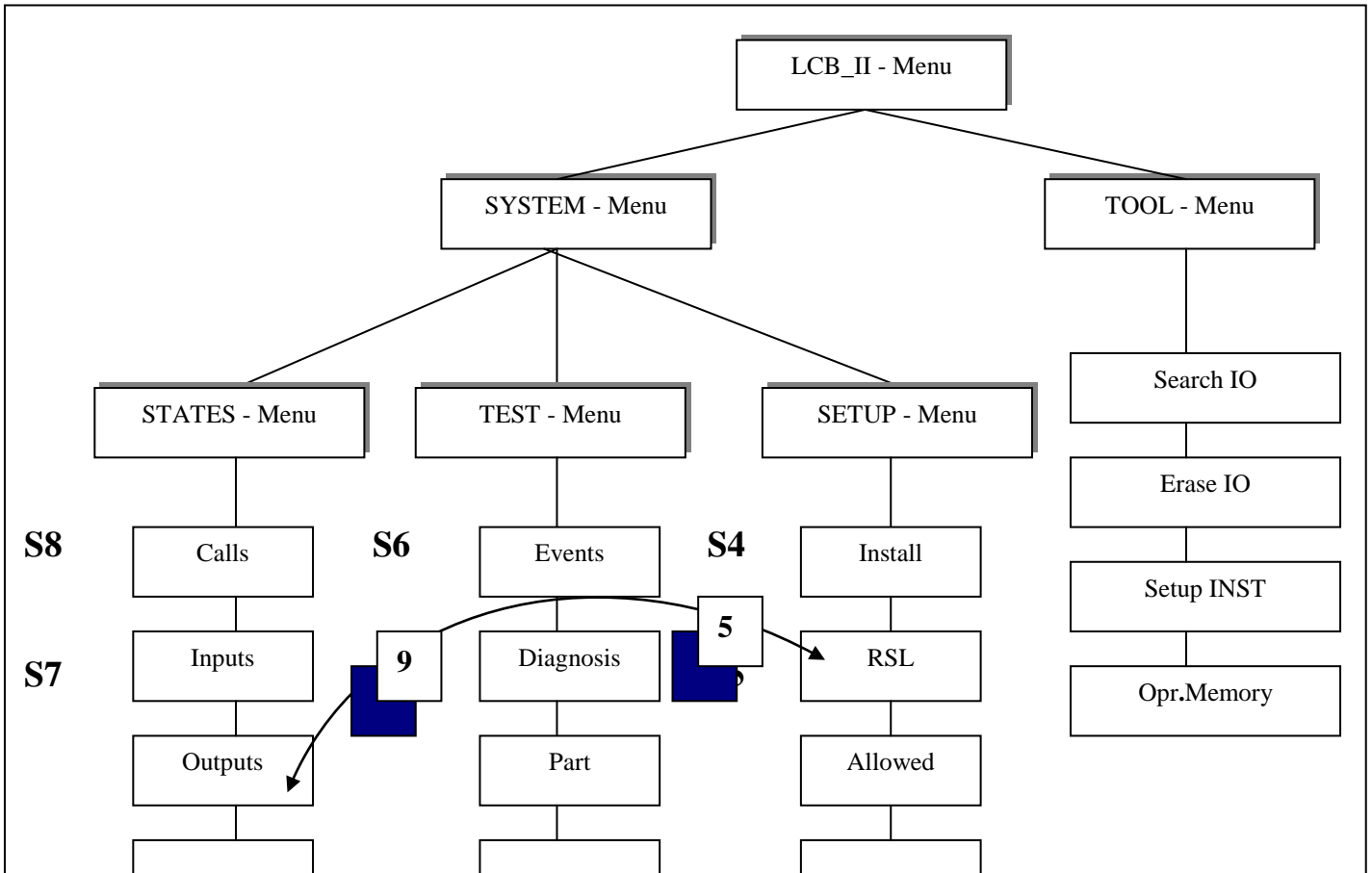


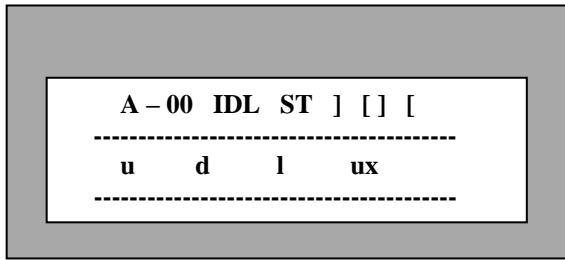
Figure 4 – 15: Standard Short Keys and Short Key S9

In Figure 4 – 15 you can see the function of Short Key S9.

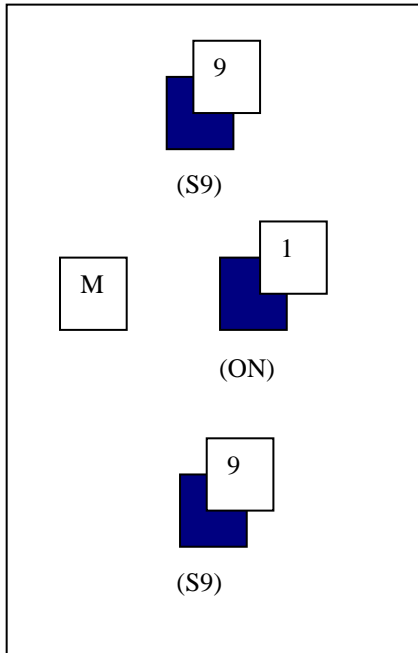
In this example the function **STATUS / Outputs** is set to the **Short Key S9** function. Now S9 is acting like a Standard Short Key.

In Figure 4 – 15 the current position is **SETUP / RSL**. Now you can call function **STATUS / Output** with Short Key S9.

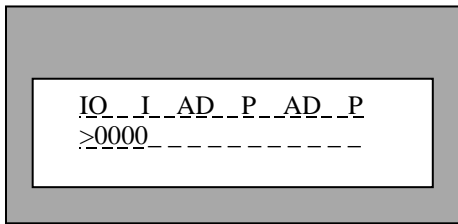
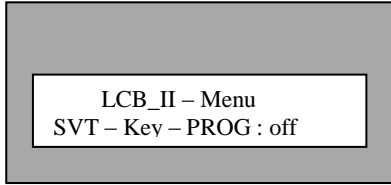
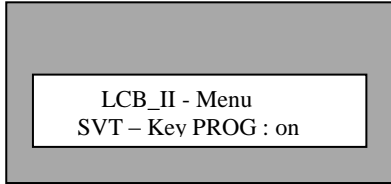
Example



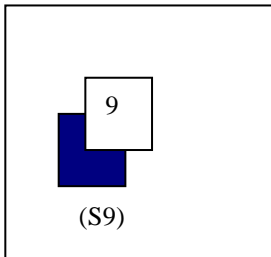
Function **STATUS / Output** (see chapter: 5.1.4)
Should be set as a Short Key function:
First you have to call **STATUS / Output**.



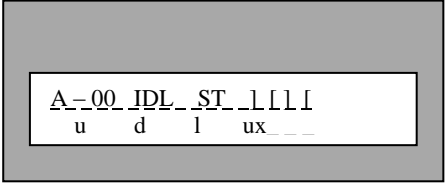
- Short Key S9: Position STATUS / Output is set to the Short Key S9 function
 - Key **MODULE** and Shift Key **ON**:
The status of Store Key **S9** is displayed on the **LCB_II – Menu**.
- notice :**
- Short Key **S9** and **LCB_II – Menu**:
Reset of Short Key **S9**.



Now you can toggle between any function
(**SETUP / RSL** (see chapter: 5.2.2))
and **STATUS / Output**.



- Short Key **S9**: Call of function **STATUS / Output**.



Service Tool Functions

5 Service Tool Functions

All the Service Tool functions are divided into 4 groups, the **STATUS**, **TEST**, and **SETUP** and **Tools** functions.

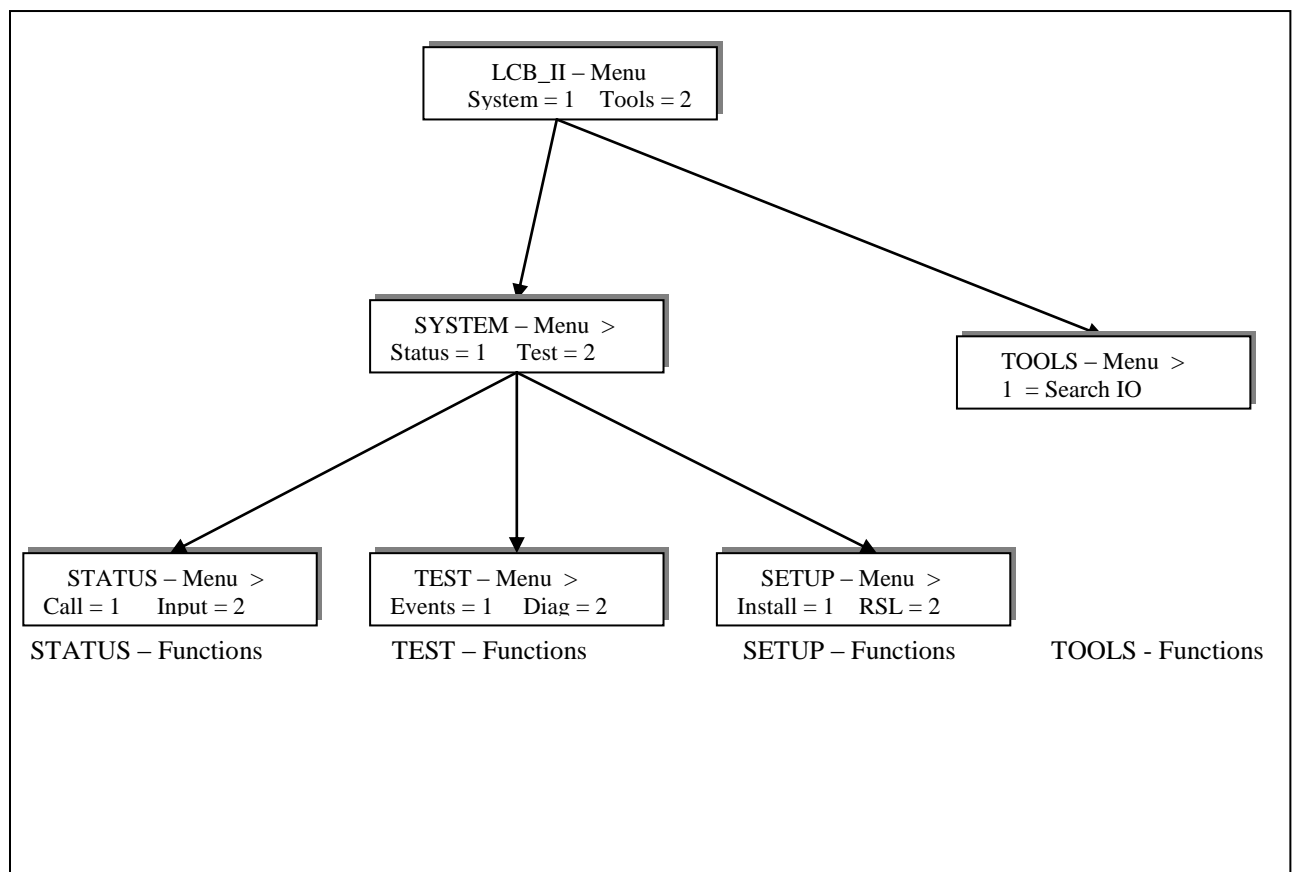


Figure 5 – 1: STATUS-, SETUP-, and TOOLS- paths

5.1 STATUS – Functions

Key Sequence

M – 1 – 1

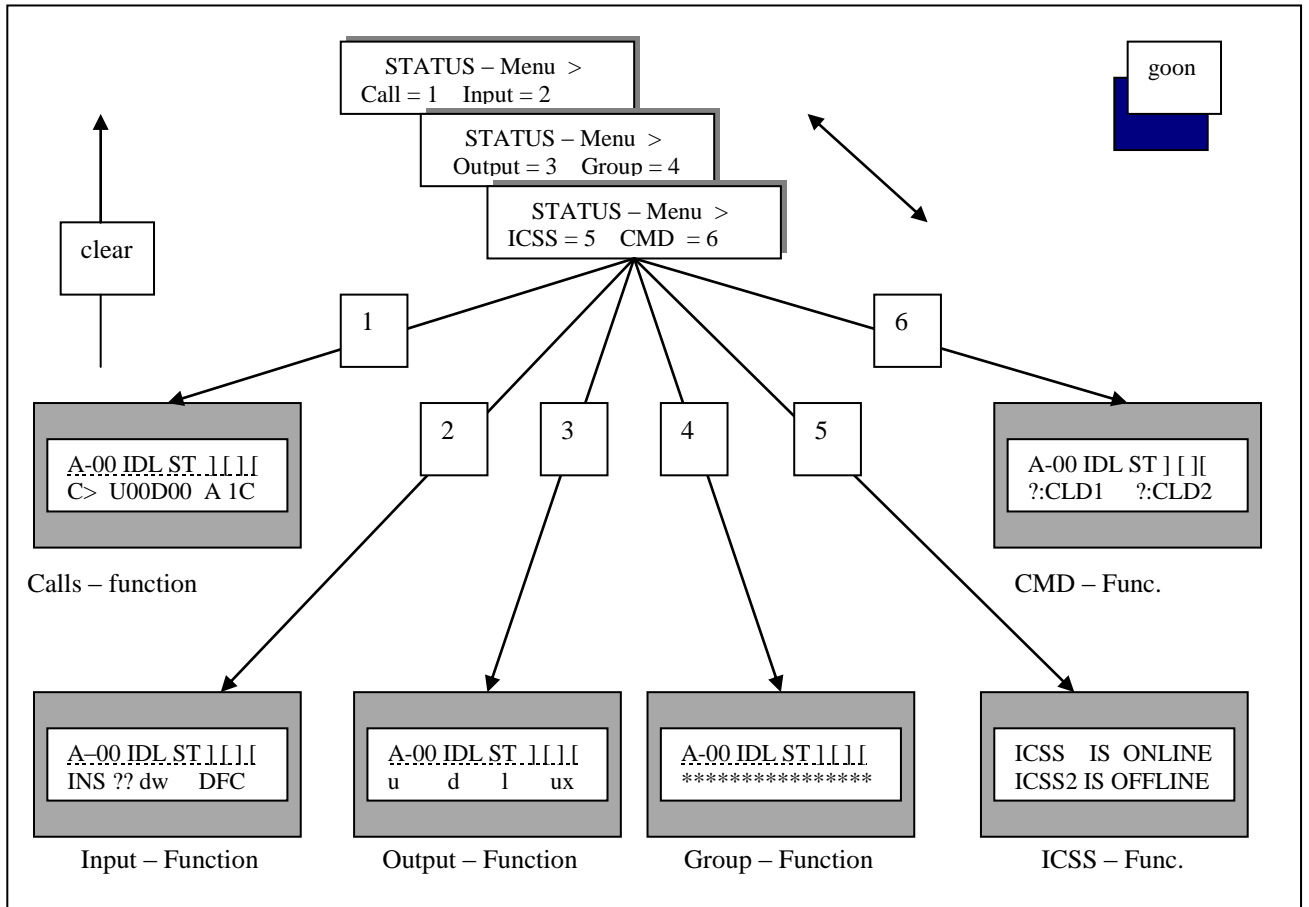
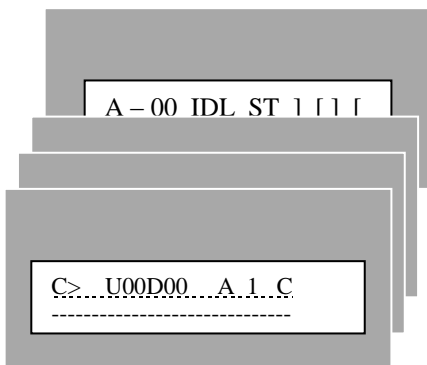


Figure 5 – 2 : STATUS – Functions

In the following all the STATUS – functions are explained. There are the **Calls, Input, Output, Group, ICSS** and **CMD** functions to control the elevator calls and monitor the software status and system I/O 's.



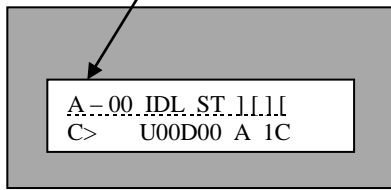
The first row always displays the Software Status. It gives information about

- the car identifier in group
- the direction of the moving cabin.
- the current position.
- the Operational Control software State, and
- the Front and Rear Door State.

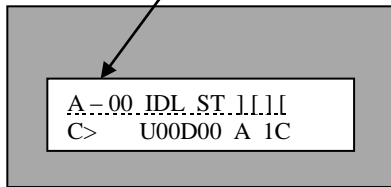
Please find in chapter 5.1.1 the exact description of The **Software Status Display** (Row one)

Figure 5 – 3: Software Status

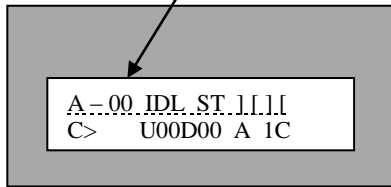
5.1.1 Software Status Display



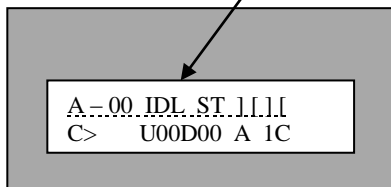
Car identifier	Description
A	First car of group / Simplex second car in group third car in group
B	
C	



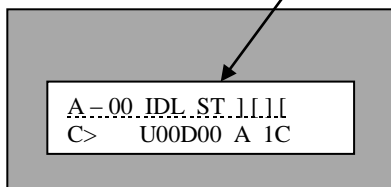
Direction	Description
—	stop / direction not defined
U	car is moving in UP direction
D	car is moving in DOWN direction



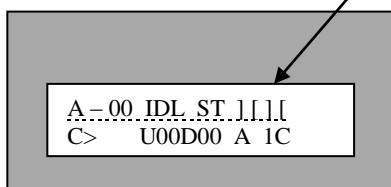
Position	Description
00	actual level (level 0)
**	position not defined



OCSS mode	Description
IDL	current OCSS – mode (Idle) see document: Service Tool Reference List / Operation Modes



MCSS status	Description
ST	current MCSS – state (Stop) See document: Service Tool Reference List / Motion States



Doors states	Description
] [[ [	front / rear door state:] [for Closed [] for Open < > for Opening < > for Closing ** for door state not defined

Event Messages in Status Display

```
A - 00 INS IN .I.I.II  
C> U00D00 A 1C
```

```
A - 00 > TCI - LOCK !  
C> U00D00 A 1C
```

In addition a blinking Event Message will be displayed during Software Status Display if one of the following events occurs and The elevator is blocked.

Examples:

Event Message	
>TCI - LOCK !	Leave Top of Car ' function on
>LS-FAULT !	1LS / 2LS check negative
>start DCS !	Door Check Sequence not opr. yet
>ACS is on !	Anti Creeping Switch is operated
>1LS + 2LS !	1LS and 2LS is operated

(see document: Service Tool Reference List / Event Messages)

4.1.2 Call – Function

Key Sequence

M – 1 – 1 – 1

Short Key

Calls S8

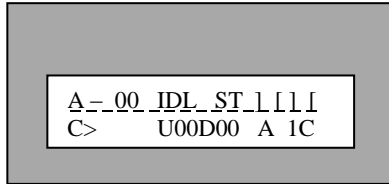


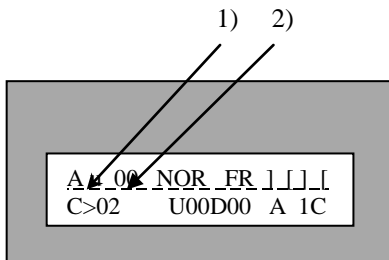
Figure 5-4: Calls – Function

In Figure 5-4 you can see the display of function Calls. The first row displays the **Software Status** (see: 5.1.1).

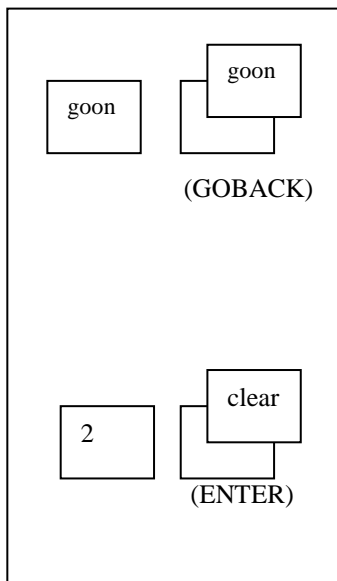
The second row controls the Elevator Calling System.

- you can enter a Car Call ,UP Hail Call, Down Hall Call or Emergency Hospital Call
- Monitoring of:
 - number of Upper and Lower Call Demands
 - Load Status
 - number of cars available in group
 - power supply

Enter a call

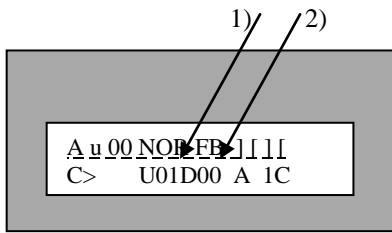


Calls		Call Type / Level Number
1)	C U D E	Car Call Up Hall Call Down Hall Call Emergency Hospital Call
2)	02	entered call (level 2)

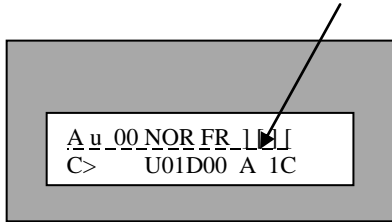


- Key GOON / Shift Key GOBACK : Toggle trough the Call Types
C – U – D – E

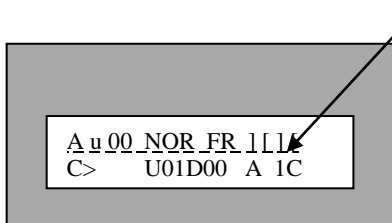
- Key number for desired level (2)
- Shift Key ENTER: Termination to enter the desired (type, level) call



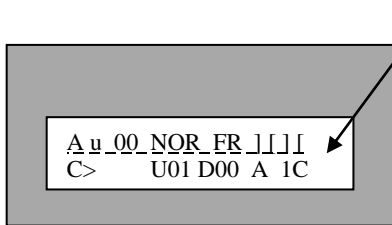
		Call Demands
1)	01	number of UP-Call demands
2)	00	number of DOWN-Call dements



		Load Status
A		ANS load
F		full load
P		peak load
O		overload
D		default load



		Cars Available In Group
1-3		number of cars available in group

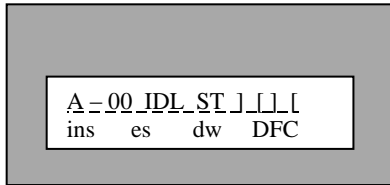


		Power Supply
C		Normal power supply
E		Emergency power supply

4.1.3 Input – Function

Key Sequence M – 1 – 1 – 2

Short Key Input S7



In **Figure 5-5** you can see the display of function **Input**.

The first row display the **Software Status** (see: 5.1.1).

Figure 5-5:Input – Function

The second row monitors the **System Inputs**

- Lower case letters of the input name stands for ‘Function = OFF’ and upper case letters for ‘function = ON’
- Up to four signals are displayed in one row .you can skip to the next / previous group with **Key GOON / GOBACK**.
- Each group is assigned to a functional block. Both can be displayed with Shift Key ENTER. Please refer to the list of available System Inputs. (see **document: Service Tool Reference List**)

goon
(GOBACK)

2
(UP)

3
(DOWN)

- Key GOON / Shift Key GOBACK:
Skip to the next / previous group of the System Inputs.

A - 00 IDL ST _ _ _ _ _
md aes

- Shift Key UP / Shift Key DOWN:
<toggle keys>
Row one: Display of the functional block and the current group.

SY1 - Safety - Chain
ins es dw DFC

Block :System
Group 1 :Safety Chain

5.1.4 Output - Function

Key Sequence

M - 1 - 1 - 4

```
A - 00 IDL ST _ | | | |
B - 03 IDL ST _ | | | |
```

Figure 5-7: Group - Function

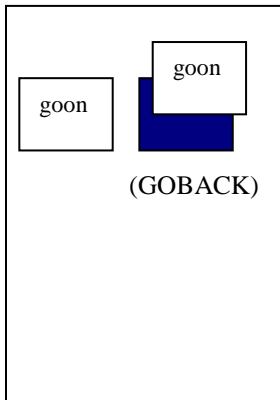
```
A - 00 IDL ST _ | | | |
***      ***      ***      ***
```

**Figure 5-8: Group - Function
(Simplex)**

In Figure 5-7 and 5-8 you can see the display of Function Group.

The first row displays the Software Status. of the Controller the Service Tool is connected with.

The second row displays the Software Status of one of the other Controllers in the group.
(see :5.1.1 Software Status)



- Key GOON / Shift Key GOBACK:
Skip to the next / previous Controller in the group.

```
A - 00 IDL ST _ | | | |
C - 07 IDL ST _ | | | |
```

5.1.5 Group – Function

Key Sequence

M-1-1-4

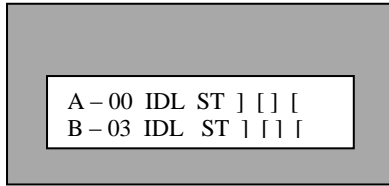


Figure 5-7: Group – Function

In **Figure 5 – 7 and 5 – 8** you can see the display of function **Group**.

The first row displays the **Software Status** of the controller the Service Tool is connected with.

The second row displays the Software Status of one of the other Controllers in the group.

(see: 5.1.1 Software Status)

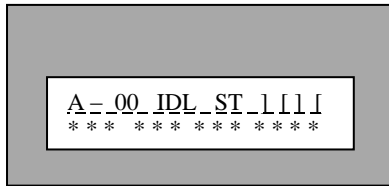
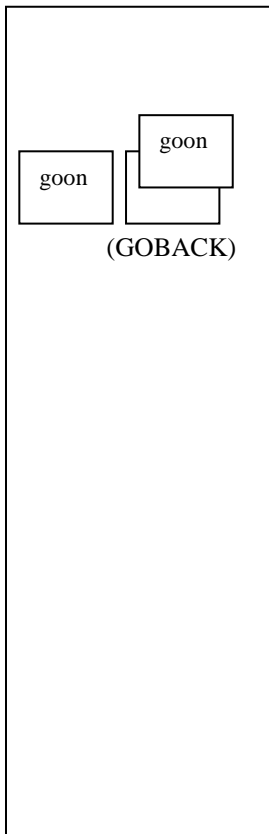
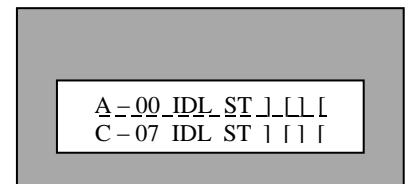


Figure 5-8: Group – Function (Simplex)



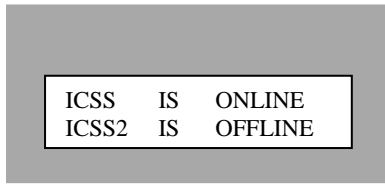
- **Key GOON / Shift Key GOBACK:**
Skip to the next / previous Controller in the group.



5.1.6 ICSS - Function

Key Sequence

M-1-1-5



ICSS	IS	ONLINE
ICSS2	IS	OFFLINE

Figure 5-9 : ICSS - Function

In **Figure 5-9** you can see the display of function ICSS.

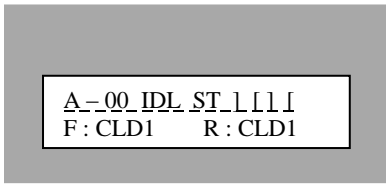
The first row displays the status of first ICSS.

The second row displays the status of the second ICSS.

5.1.7 Command – Function

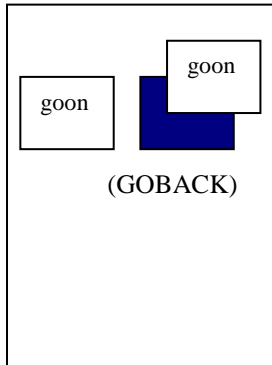
Key Sequence

M-1-1-6

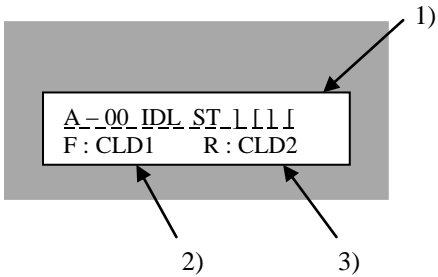


The first row displays the **Software Status**
(see : 5.5.1)

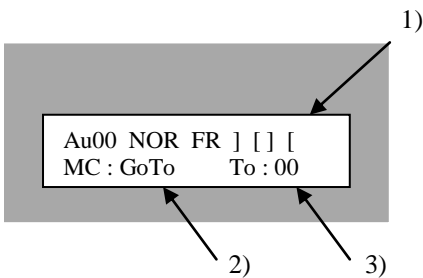
The second row displays the **Commands** which are
send to the internal Subsystems.
(see document : Service Tool Reference List /
Commands)



- Key **GOON** / Shift Key **GOBACK**:
Skip to the next / previous group of commands



Display Field	Discription
1)	Software Status
2)CLD1	command for front door
3)CLD2	command for rear door



Display Field	Discription
1)	Software Status
2) GoTo	Motion command
3) 00	Actual Target (*=-invalid)

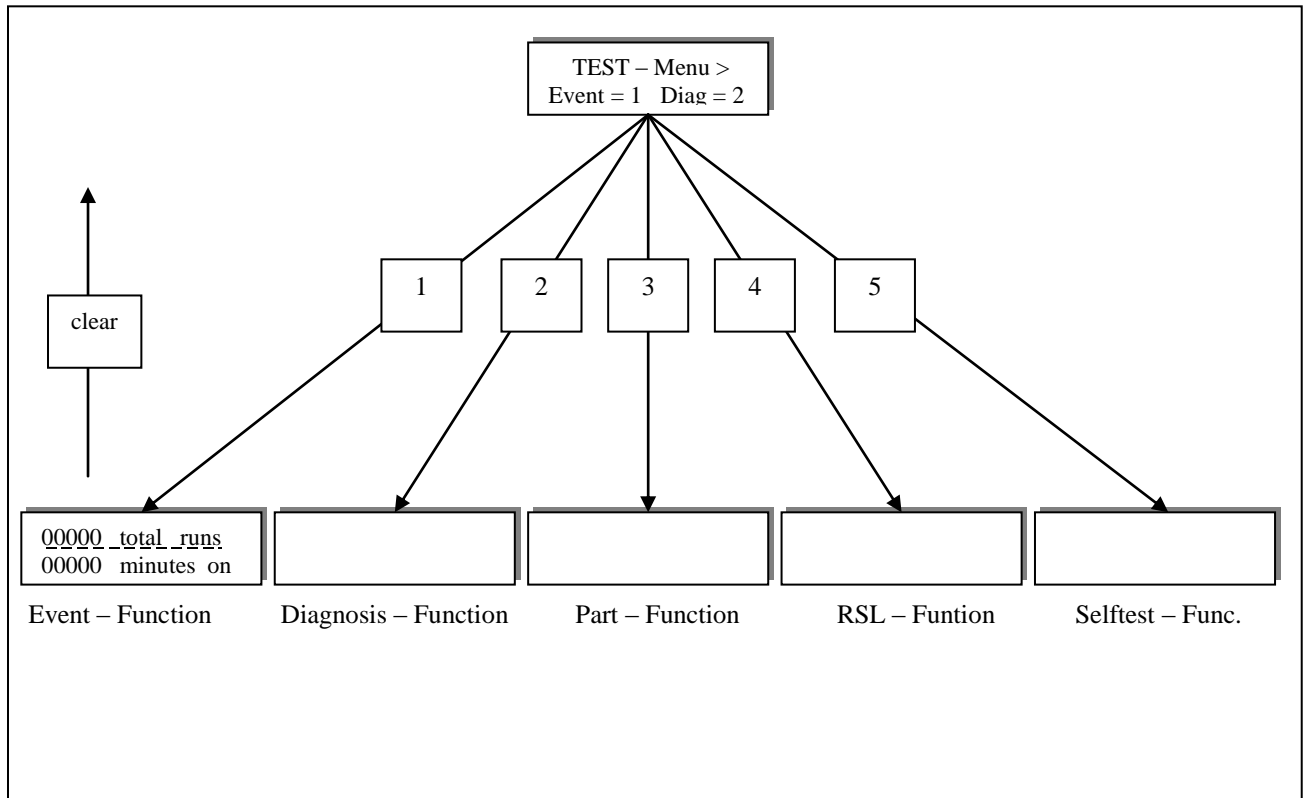


Figure 5-10: TEST – Functions

In the following all the **TEST** – functions are explained. There are the **Events**, **Diagnosis**, **Part**, **RSL** and **Selftest** functions, which are the most used functions for service and maintainace.

Short Key S6 is assigned to call the **Event** – function.

The **Diagnosis** – function operates the diagnosis parameter stored in The EEPROM after Power – OFF.

Part displays the configuration number of EPROM and EEPROM, **RSL** and **Selftest** are functions to test the hardware of the LCB_II.

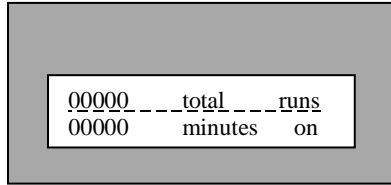
5.2.1 Event – Function

Key Sequence

M – 1 – 2 – 1

Short Key

Event S6



The Event – Function support the maintenance of The elevator.

It displays - the total number of runs

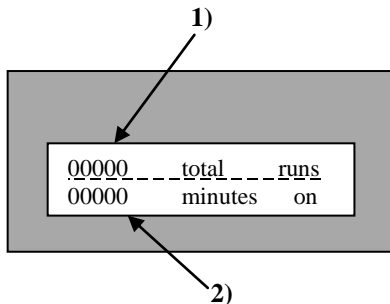
- the elapsed time since Power On

- information about each event:

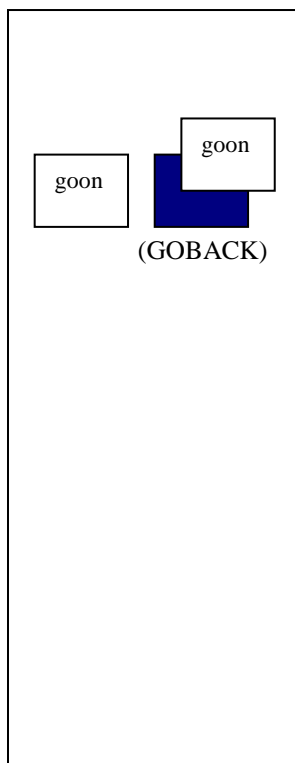
- event text
- the number of event
- the elapsed time since last occurrence
- the car position where the last event occurred

Please refer to the list of Event Messages:

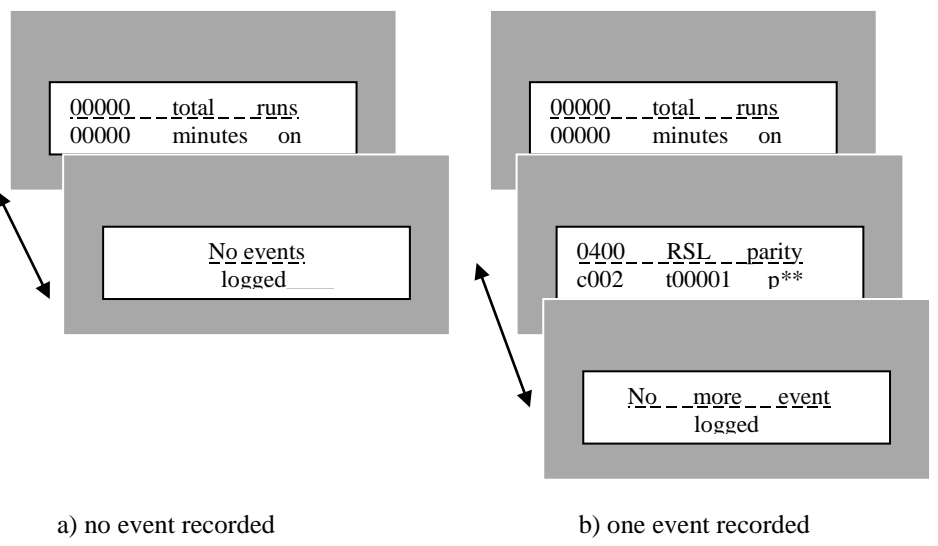
(see document: Service Tool Reference List)



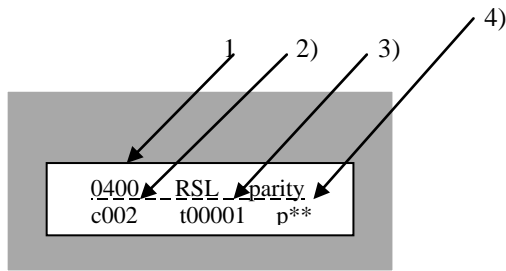
global information	
1) 00000	number of elevator runs
2) 00000	number since Power On



- **Key GOON / Shift Key GOBACK:** Skip through the list of recorded event messages.



Event logging



	event logging
1) 1.row	event text
2) 002	number of event since last occurrence
3) 00001	elapsed time since last occurrence (minutes)
4) **	car position where event occurred finally (** = position not defined)

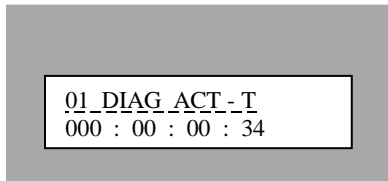
Event reset

<p>1 (ON)</p> <p>clear (ENTER)</p> <p>2 (UP)</p> <p>1 clear (ENTER)</p> <p>2 clear (ENTER)</p> <p>clear</p>	<p>- Shift Key ON: Reset the displayed event.</p> <p>- Shift Key ENTER: Termination of the reset Function.</p> <p>- Shift Key UP: Reset the entire event Logging.</p> <p>- Key 1 and ENTER and Key 2 and ENTER : Termination of the reset Function.</p> <p>- Key CLEAR: back to Test - Menu</p>
---	--

5.2.2 Diagnosis - Function

Key Sequence

M - 1 - 2 - 2



In **Figure 5-12** you can see the display of function Diagnosis.

The first row displays the name of the current diagnosis parameter.

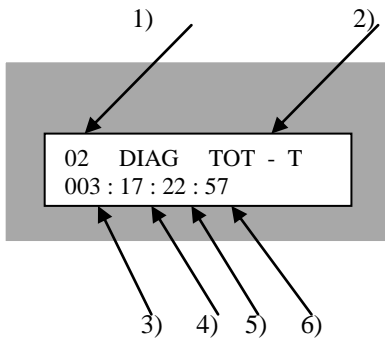
Figure 5-12 : Diagnosis - Function

The second row shows the value of the diagnosis parameter.

- You can skip to the next / previous diagnosis parameter with Key **GOON / GOBACK**
 - With Key **UP** you can display a short legend for the time values.
 - The displayed parameter can be reset to zero using the key sequence **ON/UP** and **ENTER**.
- Please refer to the list of Diagnosis Parameters.

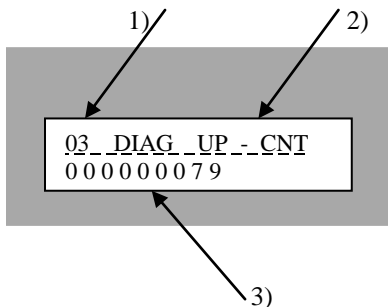
Diagnosis Parameter display

Example of a time parameter



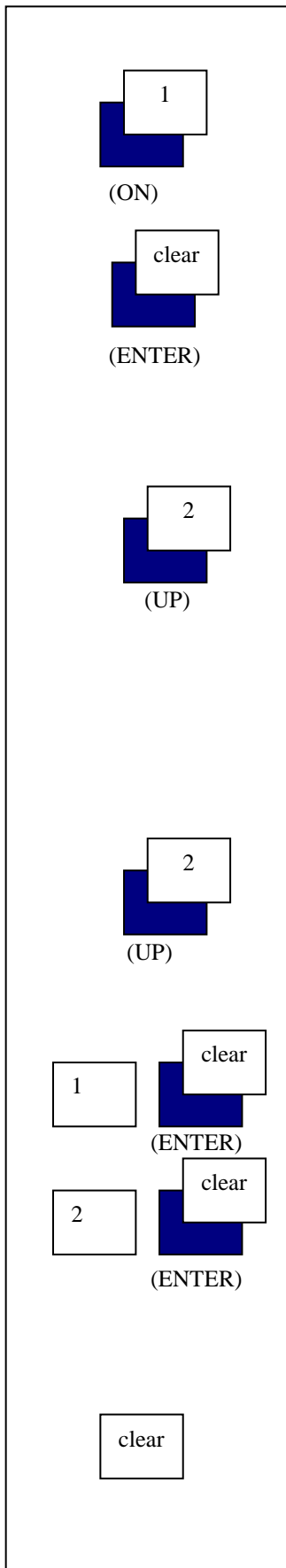
Display Field	Description
1) 02	Parameter no.
2) TOT-T	Parameter name
3) 003	No. of months
4) 17	No. of days
5) 22	No. of hours
6) 37	No. of minutes

Example of a time parameter

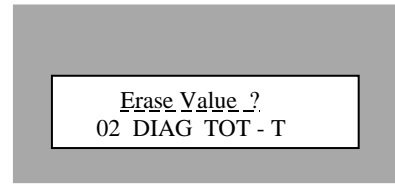


Display Field	Description
1) 03	Parameter no.
2) UP-CNT	Parameter name
3) 000000079	No. of occurrences

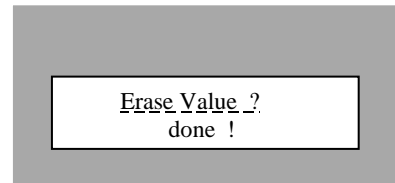
Diagnosis parameter reset



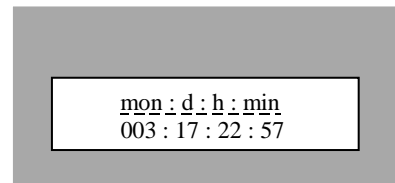
- Shift Key **ON**:
Reset the displayed event



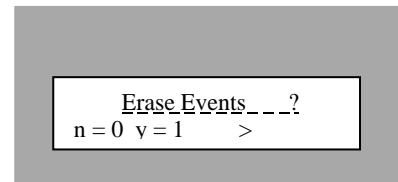
- Shift Key **ENTER**:
Termination of the reset function.



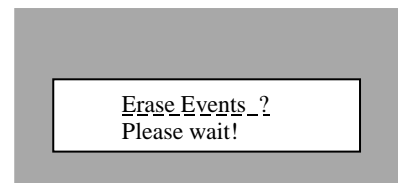
- Shift Key **UP**
displays a short legend of the time value – if a time – value was displayed before.



- Shift Key **UP(a 2,time)**:
Resets the entire event Logging.



- Key and **ENTER** and
- Key and **ENTER**:
Termination of the reset Function.

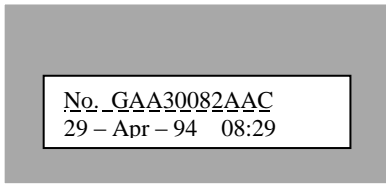


- Key **CLEAR**:
back to **Test - Menu**

5.2.3 Part – No. - Function

Key Sequence

M – 1 – 2 – 3



The **Part – No.** – Function display the current software version of the **EPROM** and **EEPROM**.

It also displays the date and the time of the **LCB_II** software release.

Figure 5-13 :Part – No. – Function

goon

goon

(GOBACK)

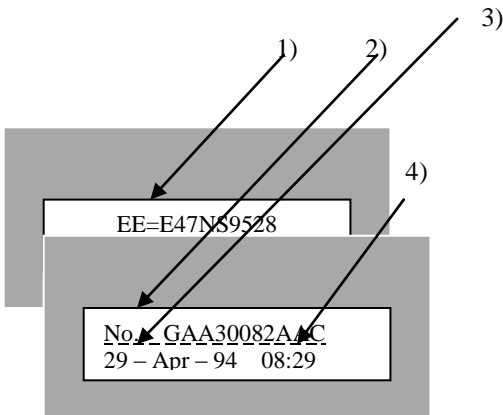
clear

- Key **GOON** / Shift Key **GOBACK**:
Toggle between the displays of the **EPROM** version and the display that shows the **EPROM** version and the date / time of the release.

- Key **CLEAR**: back to **Test - Menu**

EE=E47NS9528

No. GAA30082AAC
29 – Apr – 94 08:29

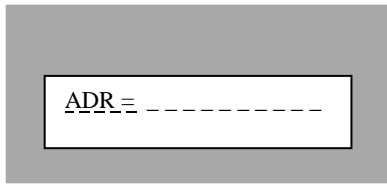


	software version / date / time
1)E47NS9528	EEPROM version
2)GAA 30082 AAC	EPROM version
3)29 – Apr – 94 4)08:29	date and time of the release

5.2.4 RSL – Test - Function

Key Sequence

M – 1 – 2 – 4



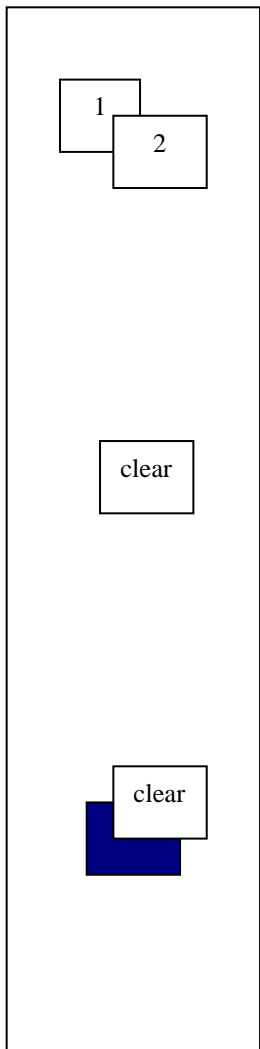
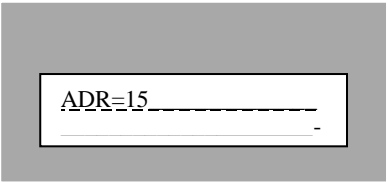
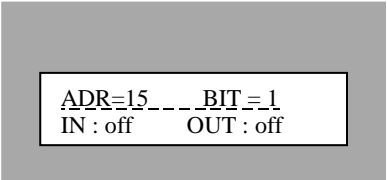
The **RSL – Test – Function** can be used to test the remote Stations.

After the address of the Remote Station is entered,

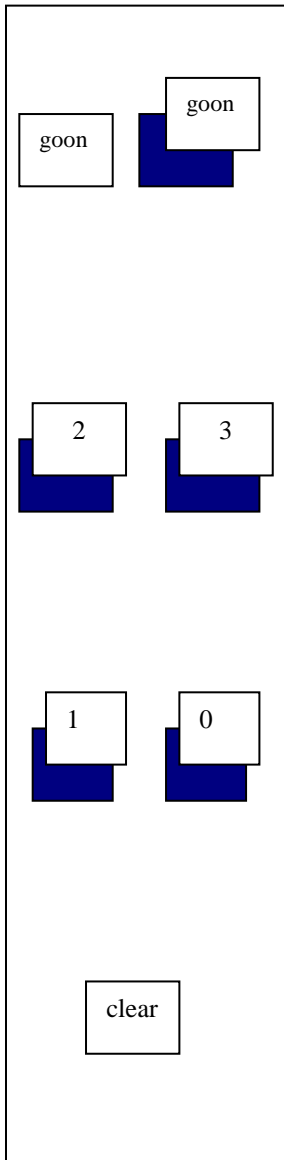
- the four Input Pins are monitored and
- the four Output pins can be set.

Figure 5-13 : RSL / Test - Function

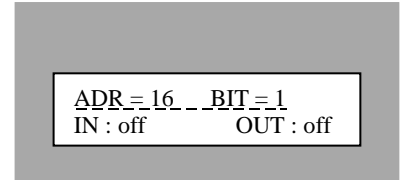
Enter the RSL – address

	<p>- Key 1,5: Input Keys of the RSL - address</p>  <p>- Key CLEAR: deletes the last input if you want to correct the number.</p> <p>- Shift Key ENTER: termination of the input operation</p> <p>The current status of the Input – and Output pins of The entered RSL address is displayed.</p> 
--	--

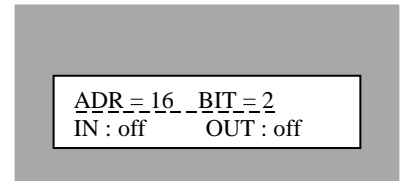
Change address, pin and output



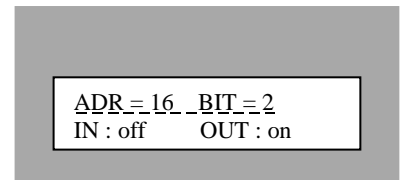
- Key **GOON** / Shift Key **GOBACK**:
Skip to the next /
Previous address.



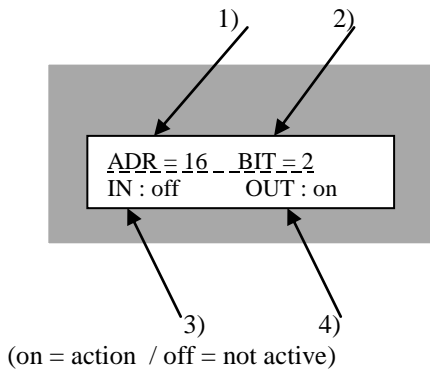
- Shift Key **UP** / Shift Key **DOWN**:
Skip to the next /
Previous bit.



- Shift Key **ON** / Shift Key **OFF**:
Toggle of the Output -
Pin: on / off



- Key **CLEAR**:
back to Test - Menu



	RSL: Status
1) ADR	RSL address(decimal)
2) BIT	RSL - pin
3) IN	RSL Input Pin Status (Monitor)
4) OUT	RSL Output Pin Status

5.2.5 Selfst - Function

Key Sequence

M - 1 - 2 - 5

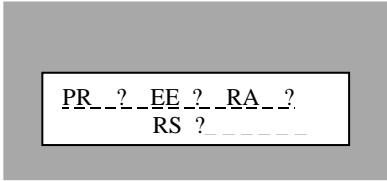
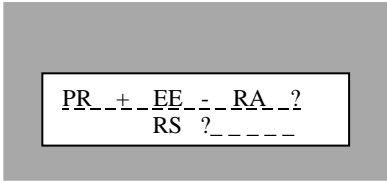


Figure 5-14: Selftest - Function

Function **Selftest** can be used

- to test the memory of the **LCB_II** board and
- to check the Remote Serial Link.

The test will start as soon as the **Selftest - Function** Is called.



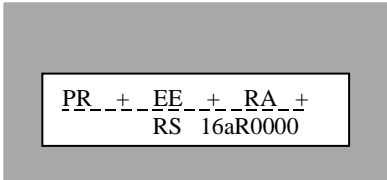
The flashing question mark indicates which part of the test is currently active (**RA**):

- **PR** EPROM - test
- **EE** EEPROM - test
- **RA** RAM-test
- **RS** Remote Serial Link test

The single results are displayed as:

- (+)for **Test successfully finished**
- (-)for **Test not successfully finished**

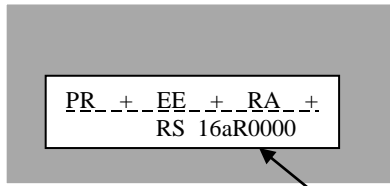
Please notice that for the EE – test a checksum written into the EEPROM is verified .So, the first call of the test with a new EEPROM will result a (-)



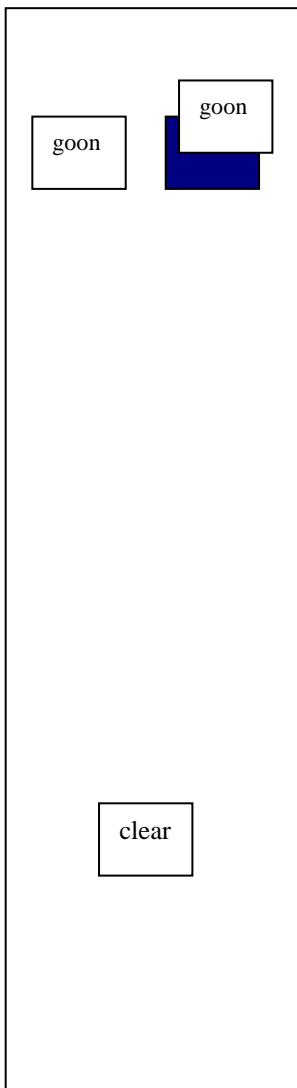
The **RS** – test will give some information about single Remote Station.

- if they are setup but not available
- if they are responding
- if they are parity errors

RS – Remote Station Test



RS - test	
16	RSL - address
A	available (IO-No. is defined)
B	not available
R	responding (Hardware is okay)
r	not responding
000	parity error counter

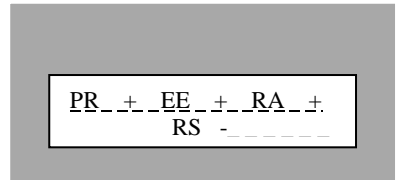
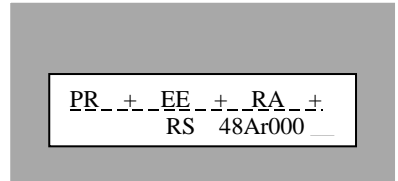


- Key **GOON** / Shift Key **GOBACK** : Skip through the list of Remote Station which signals

- **not available** or
- **not responding** or
- **parity errors**.

- If there was at least one entry in the list ,the display for **Test not successfully finished** (-) occurs.

- Key **CLEAR**:
back to **Test - Menu**



5.3 SETUP - FUNCTION

Key Sequence

M-1-3

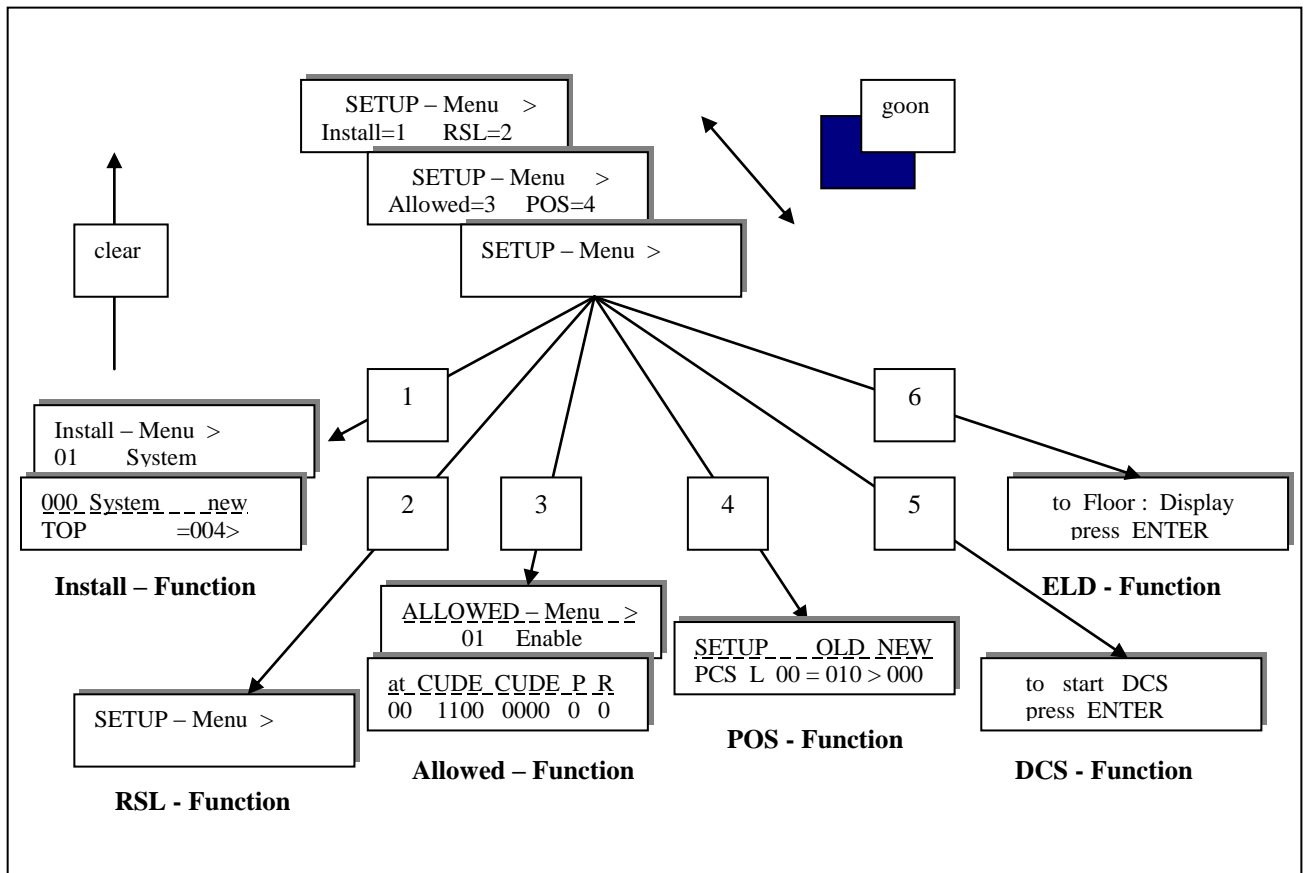


Figure 5-15 : SETUP - Functions

In the following all the SETUP – function are explained.

The Install , RSL , Allowed , POS and ELD functions are used to set the parameters and masks of the EEPROM whereas the DCS Run function has the task to check if every open door opens the safety chain.

There are four different groups of Setup Parameters to define the elevator environment:

- Installation Parameter
- RSL – IO Numbers
- Allowed Masks
- Position Indicator Parameter
- ELD - Display

The DCS – Function is used to test the well installed Door safety chain after startup and setup phase.

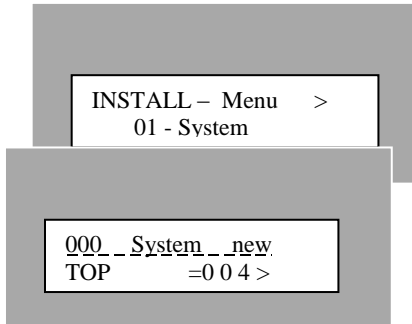
5.3.1 Install - Function

Key Sequence

M - 1 - 3

Short Key

Install S4

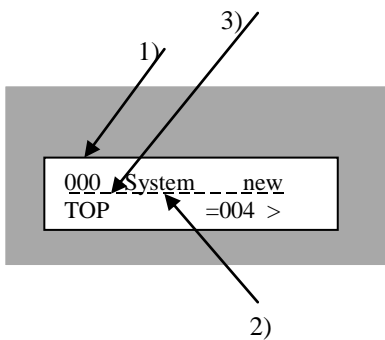


Function Install is used to set the Installation parameter. The parameters are divided into 8 groups. The Install Menu gives access to each group. (see : 4.2.6)

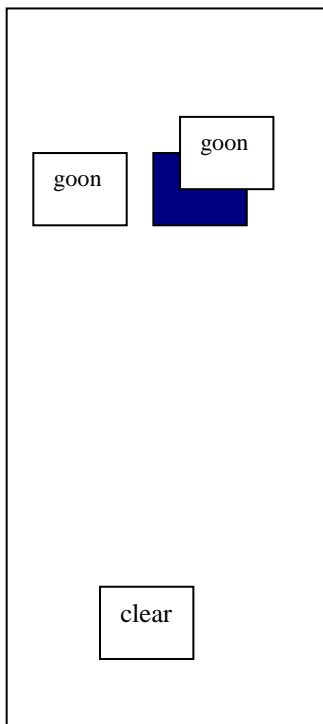
The range of each parameter is defined and controlled By software. The storage operation is disabled if the cabin is moving.

Figure: 5-16: Install – Function

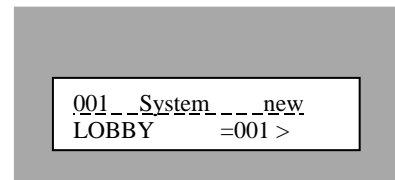
(see : document: List of Installation Constants)



		Element – No. / Group / Name
1)	000	element – No of group
2)	System	current group name
3)	TOP	name of current Install Parameter

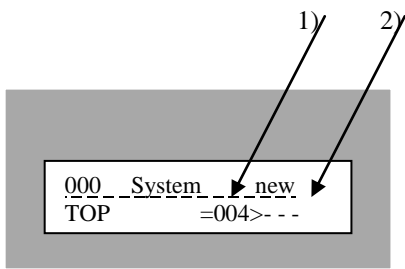


- Key GOON / Shift Key GOBACK :Skip through the assigned Group of Installation Parameter (System)



- Key CLEAR:
back to Install - Menu

Enter a new parameter



	Input: Install Parameter
1) 004	current value of Install parameter
2) 000	input field for new Parameter

3

2

clear

clear

(ENTER)

- Key 3.2: Input Keys of the new Parameter (32)

- Key CLEAR : deletes the last input if you want to correct the number.

- Shift Key ENTER: Termination to store the Install Parameter into the EEPROM

notice : For security reasons the storage operation is disable if the cabin is moving.

5.3.2 RSL – Function

Key Sequence

M – 1 – 3 – 2

Short Key

RSL S5

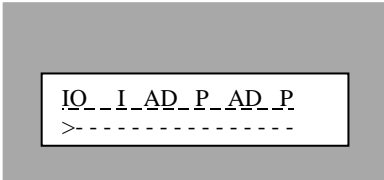
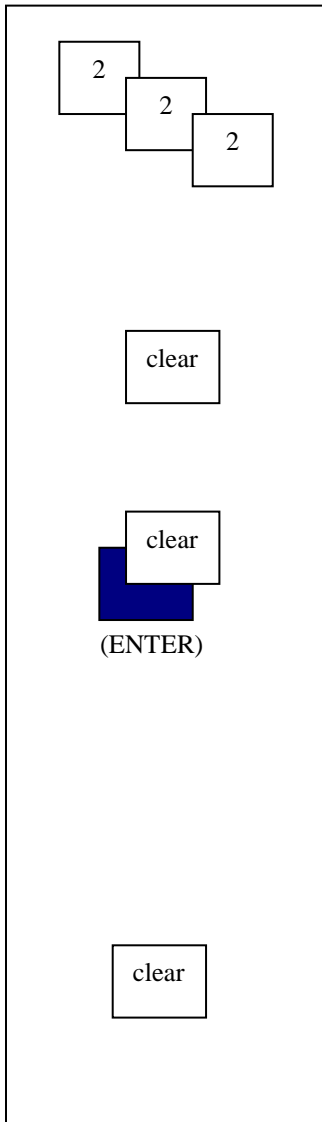


Figure 5-17 : RSL – Function

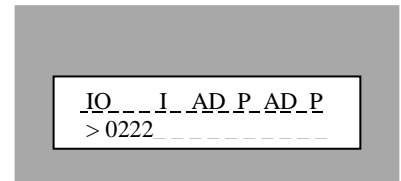
The arrow IS pointing to the input field of the IO - Number. After you entered the IO-Number the current RSL information stored in the EEPROM is displayed. Now you can change the RSL – Addr. and the RSL – Plug.

The Invert Bit can not be changed . It is set by software For RSL – Adr. 0-4 it is always set to zero. (see document : List of Inputs and Outputs)

Enter the IO - Number

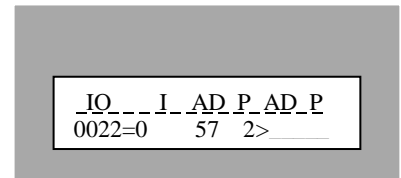


- **Key 2.2.2:** Input Keys of the desired IO – Number (222)



- Key **CLEAR:** deletes the last input if you want to correct the number.

- Shift Key **ENTER:** Termination of the IO – number input:



The current information store in the EEPROM is displayed:

IO : IO – Number

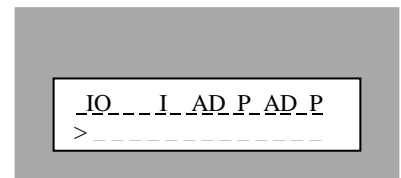
AD: Remote Station – Addr.

I : Invert Bit

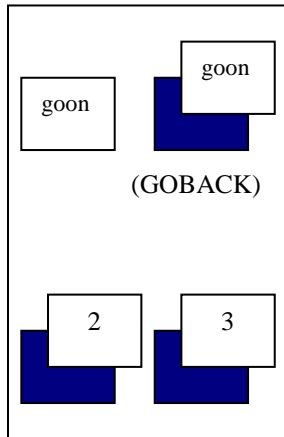
P: Remote Station – Plug

Note: Once a IO – Number is defined, it is stored in the system.

- Key **CLEAR :** clear the display to enter a new IO-number.



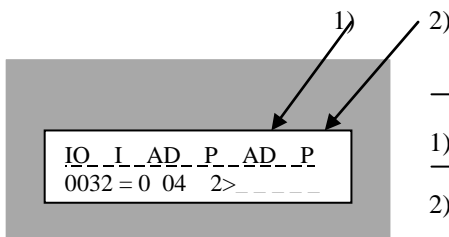
Change the IO - Number



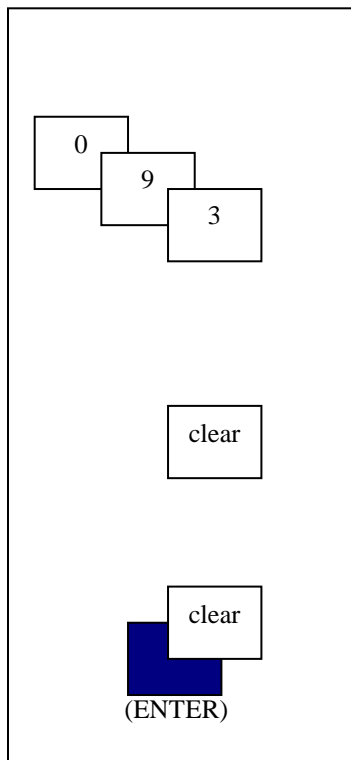
- Key **GOON** / Shift Key **GOBACK**: Skip to the next / previous IO - Number.

- Shift Key **UP** / Shift Key **DOWN**: Skip to the next / previous IO Number with defined **RSL - Addr.** and **RSL - Pin/Plug**.

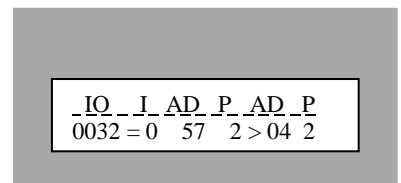
Enter new RSL - Parameter



		Input: RSL - Parameter
1)	AD	new RSL - Addr.
2)	P	new RSL - Pin/Plug



- Key **0,9,3**: Input Keys of **RS - Addr.:** 04 and **RS - Pin :** 2



- Key **CLEAR** : deletes the last input if you want to correct the number.

- Shift Key **ENTER** : Termination of the **RSL - Parameter** input operation.

5.3.3 Allowed – Function

Key Sequence

M – 1 – 3 – 3

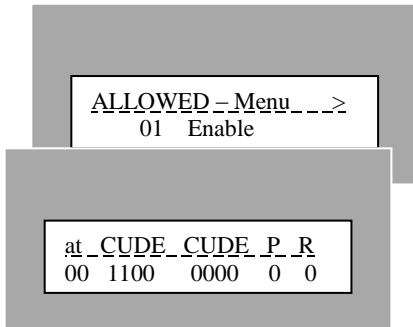


Figure 5.18: Allowed - Function

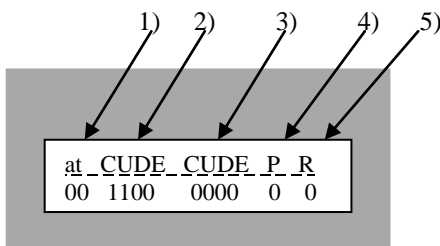
Function Allowed is used to set the Floor Table Masks.

The masks are divided into 3 groups:

- Enable
- Cut_Call
- Card Rd.

The Allowed Menu gives access to each group.

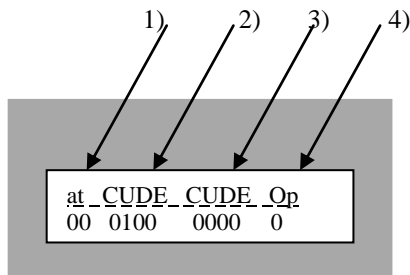
Enable Display



	Enable Display
1) at	level number (0)
2) CUDE	
3) CUDE	real door Enable Mask, with: - Car Call - Up Hall Call - Down Hall Call - Emergency Hospital Call (1 = allowed / 0 = not allowed)
4) P	Park Bit: (1 = allowed / 0 = not allowed)
5) R	Reduced landing No.: - Short Run (1,2,3 = profile) - Medium Run (4,5,6 = profile)

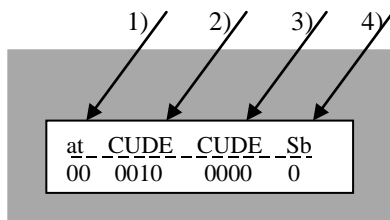
The Enable Masks (CUDE) allows the Elevator to run to a certain level depending On the regarding call.
If the Parking Bit is set to 1, parking at a Certain level is not allowed (Group applic.)
The Reduced Landing No. indicates that The above floor is a Short – or Medium loading.
The velocity (profile) is a function of the number (1,2,3 or 4,5,6).

Cut_Call Display



The **Cut_Call Masks (CUDE)** are used to suppress the **Enable Mask** if a Cut_Call signal (CHCS...) occurs.
 The indication **Parking with door open** defines the door state during parking.

Card_Rd ,display

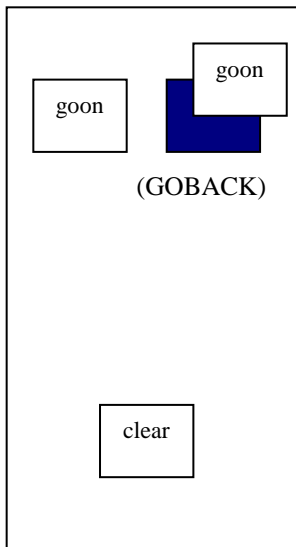


The **Card_Rd Masks (CUDE)** are used to Reach certain floors with magnetic card (Card Reader Operation).
 The indication **Special door open button** Defines the operation of the Special Door Open Button.

Cut_Call Display	
1) at	level number (0)
2) CUDE	front door Cut_Call Masks and
3) CUDE	rear door Cut_Call Masks, with:
- C	- Car Call
- U	- Up Hall Call
- D	- Down Hall Call
- E	- Emergency Hospital Call
	(1 = allowed / 0 = not allowed)
4) OP	Parking with door open
	0 = both doors closed
	1 = only front door closed
	2 = only rear door open
	3 = both doors open

Card_Rd Display	
1) at	level number (0)
2) CUDE	front door Card_Rd Masks and
3) CUDE	rear door Card_Rd Masks, with:
- C	- Car Call
- U	- Up Hall Call
- D	- Down Hall Call
- E	- Emergency Hospital Call
	(1 = allowed / 0 = not allowed)
4) Sb	Special door open button
	0 = both SDOB disabled
	1 = only front SDOB enabled
	2 = only rear SDOB enabled
	3 = both SDOB enabled

Change the level

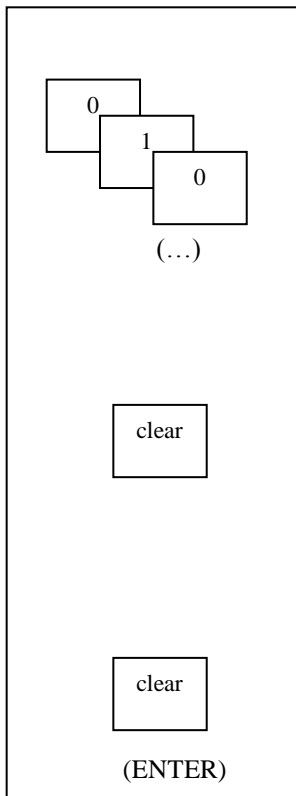


- Key **GOON** / Shift Key **GOBACK**: Skip to the next level number

at	CUDE	CUDE	P	R
01	1110	0000	0	0

- Key **CLEAR**:
- Back to Allowed - Menu

Enter new Allowed – Parameter



- Key **0,1,0...**: Input Keys of All the number (10) of the current row.

at	CUDE	CUDE	P	R
01	> 010	_____	_____	_____

- Key **CLEAR**: deletes the last input if you want to correct The number
- Shift Key **ENTER**: Termination of the Allowed – Parameter input Operation.

OTIS 2000 - Openings and Dummy Doors

For the controller types **MCS120 / MCS220** (OTIS2000)

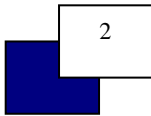
Openings and **Dummy Doors** are defined as follows:

- The Openings are determined by Software regarding to the level Arrangement done with Function **Allowed-Enable** and the following **Rule**:

```
at _CUDE_CUDE_P_R
00 1100 0000 0 0
```

Count the Front – and Rear Doors for each Level beginning at Front / Level 0

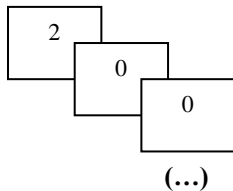
- A Dummy Door is an option to define the same Level Arrangement for every elevator in Group applications.



- Shift Key **UP**:
<toggle key>
Display of the determined **Openings**.

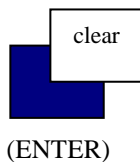
```
at _E:00_R:--_P_R
00 1100 0000 0 0
```

F : 00	at Front Door of Level 0 : Opening 0
R: --	at Rear Door of Level 0: no Opening



- Key **2,0,0...**: Input Keys of all the number (10) of the current row.(level 1)
2000 is the Code for a **Dummy Door**.

```
at _F:01_R:--_P_R
01 > 200
```



- Shift Key **ENTER**:
Termination of the Allowed-Parameter input operation.
The new determined **Openings** are displayed.

```
at _F:01_R:02_P_R
01 2000 1110 0 0
```

F : 01	at Front Door of Level 1 : Opening 1
R: 02	at Rear Door of Level 1 : Opening 2

5.3.4 POS - FUNCTION

Key Sequence M - 1 - 3 - 4

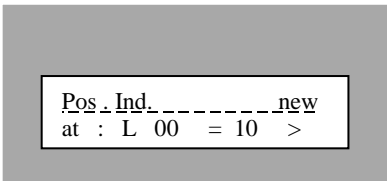
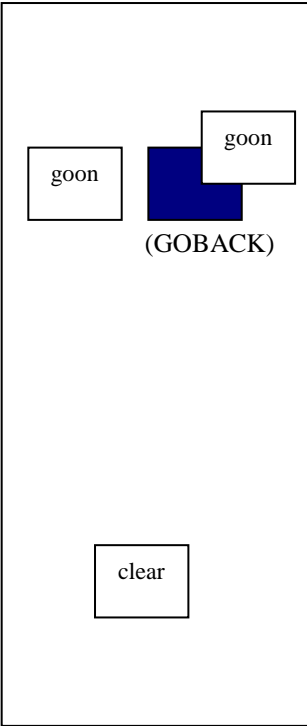


Figure 5-19 POS - Function

Function **POS** is used to set the digits of the Position Indicator.
 For each level a left (L) and a right (R) digit is provided to indicate the floor.
 The range of each digit is defined in the table below.

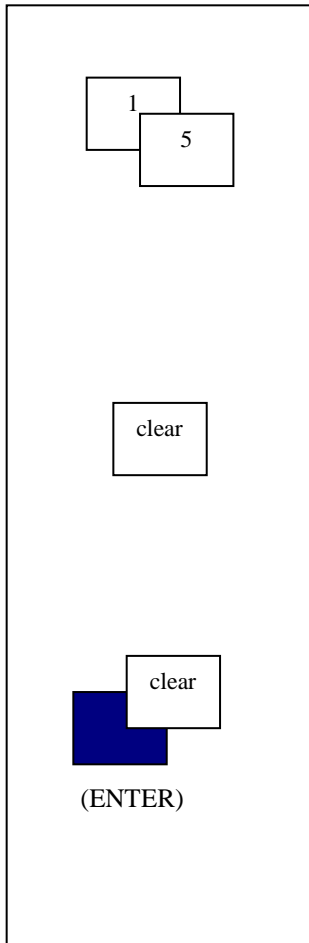
		Input : POS digits
1)	L	left digit
	R	right digit
2)	00	level number (00)
3)	10	current value of Pos.Ind. digit (10 = blank)
4)	new	input field for new value.



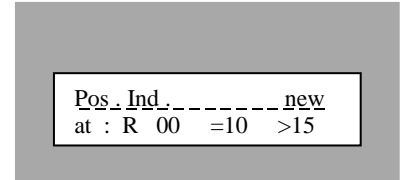
- Key **GOON** /
 Shift Key **GOBACK** :
 Skip first to the next /
 previous digit and then to
 the next / previous level.

- Key **CLEAR**:
back to Setup - Menu

ENTER a new digit



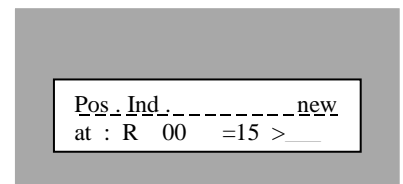
- **Key 1,5:** Input Keys of the desired digit (15 = E)
(see: Reference List below)



- **Key CLEAR:** deletes the last input if you want to correct the number.

- **Shift Key ENTER:** Termination of the input operation

The current information
Stored in the EEPROM
Is displayed:



Reference List

value	symbol	value	symbol	value	symbol	value	symbol
0	0	10	(blank)	20	J *	30	T *
1	1	11	A	21	K *	31	U
2	2	12	B *	22	L	32	V *
3	3	13	C	23	M *	33	W *
4	4	14	D *	24	N *	34	X *
5	5	15	E	25	O	35	Y *
6	6	16	F	26	P	36	Z *
7	7	17	G *	27	Q *	37	
8	8	18	H	28	R *	38	
9	9	19	I *	29	S	39	

(* for 16 – segment only!)

5.3.5 Door Check Sequence

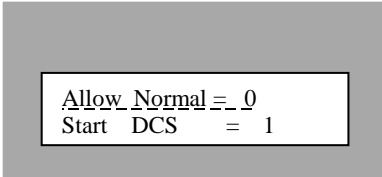
Key Sequence

M - 1 - 3 - 5

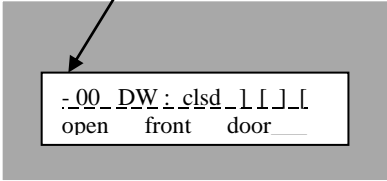
The **Door Check Sequence (DCS) – Function** is a safety feature for OTIS 2000 Controllers MCS120 and MCS220 (M), It insures that all hoist way door contacts are installed correctly and will Open the safety chain.
Until the Door Check Sequence is finished successfully it is only possible to move the car in inspection mode. Normal runs are disabled.

Calibrating an LSVF without speed encoder before DCS

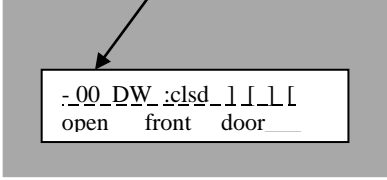
For LSVF (-W) without speed encoder it is necessary to calibrate the drive package in Inspection an Normal mode before the DCS can be done.
In an Installation with LSVF or LSVF – W without Advanced Door Opening and without Relieving the following display appears:



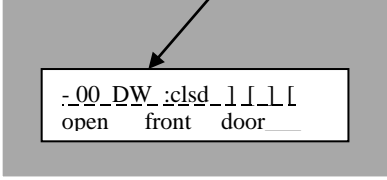
<p data-bbox="303 1332 399 1422">0</p> <p data-bbox="303 1736 399 1825">1</p>	<p data-bbox="550 1332 1364 1422">- Key 0: From now on 5 normal runs are allowed to calibrate the drive package</p> <p data-bbox="550 1736 1045 1825">- Key 1: Start the DCS immediately.</p>
---	---



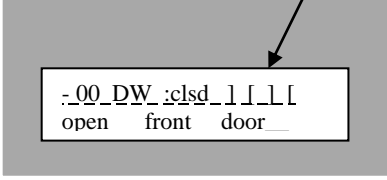
Direction	Description
-	stop / direction not defined
U	car is moving in UP direction
D	car is moving in DOWN direction



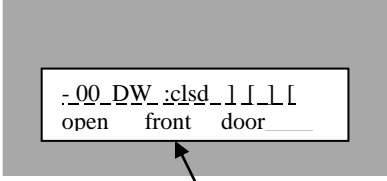
Position	Description
00	actual level (level 0)
**	level position not defined



DW status	Description
DW: clsd	DW active (switch closed, door closed)
dw:opnd	DW passive (switch opened, door open)

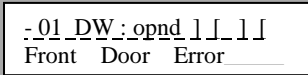


Door status	Description
] [ ] [	front / rear door status:] [for Closed [] for Open < > for Opening >> for Closing ** for door state not defined

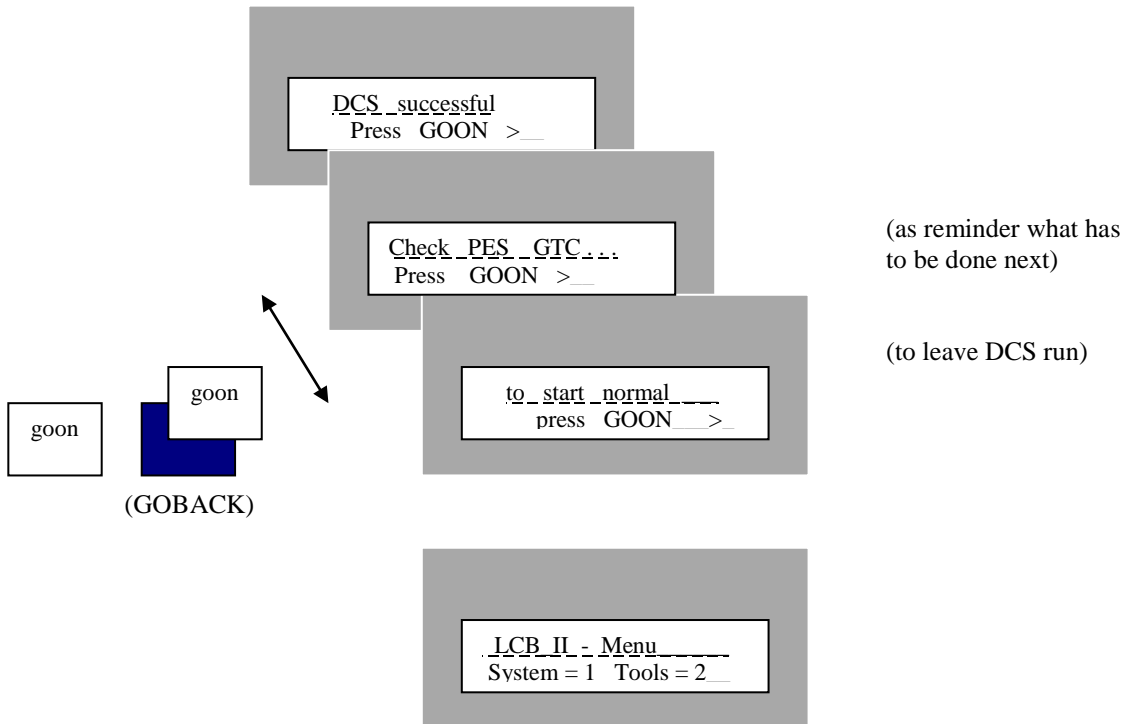


DCS action	Description
open front door check DW input close front door open rear door check DW input close rear door up to next level	(listed are the current actions of the automatic DCS – run)

If a failure occurred the error is displayed in the 2nd row. The 1st row shows the status including The level number where the error was detected:

	Error message	Description
	Front Door Error Rear Door Error aborted by ENTER Door opening err DW not closed Position error Door Closing Err	(listed are the possible error message of the automatic DCS – run)

After successful completion of the DCS the success message is displayed



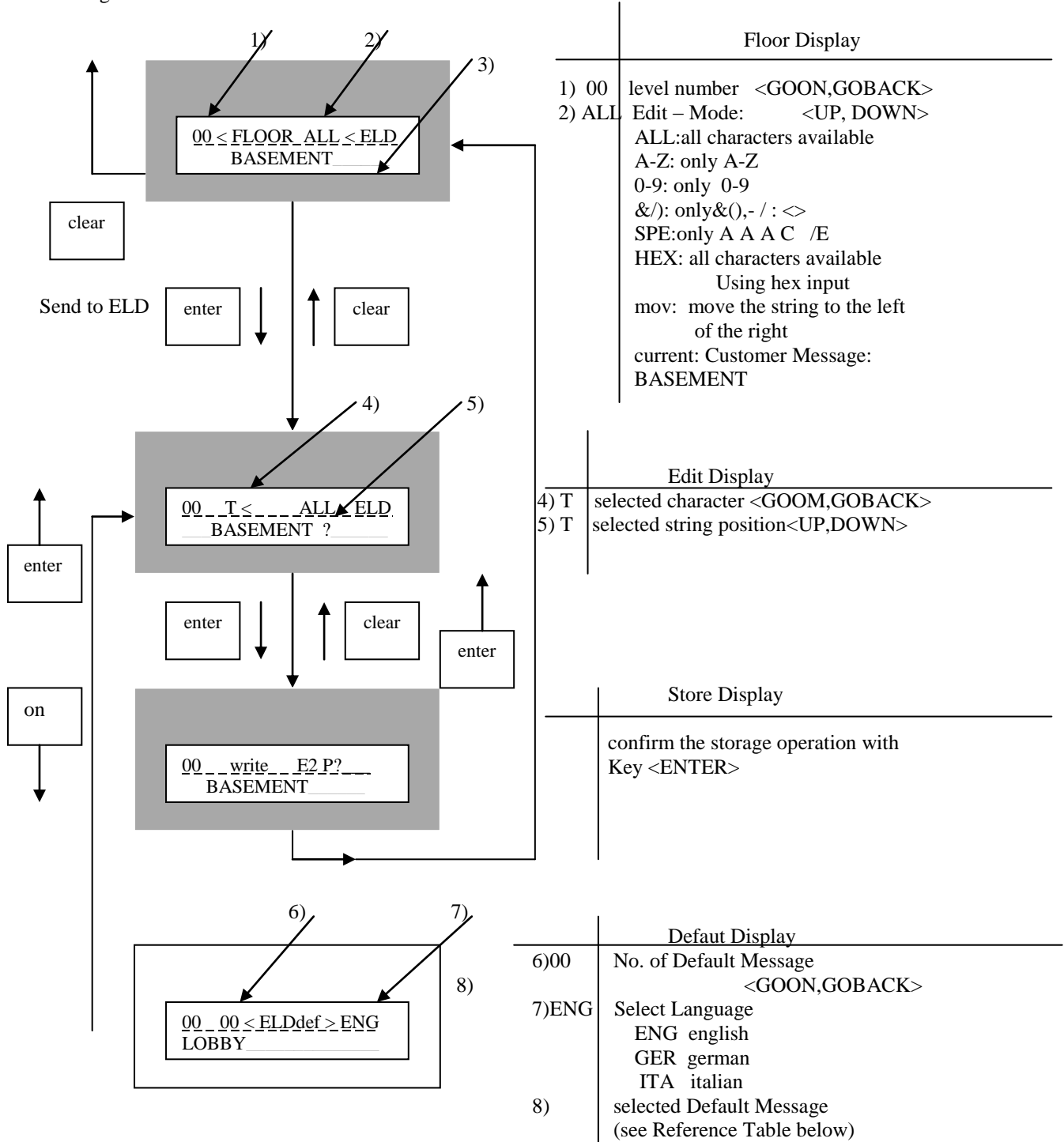
5.3.6 ELD - Function

M - 1 - 3 - 6

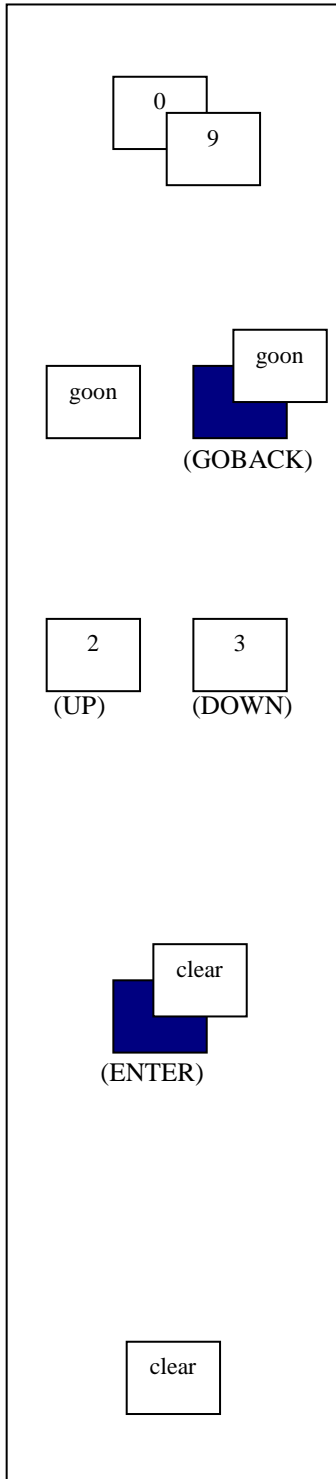
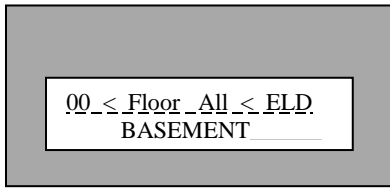
Key Sequence

The ELD – Function is used to define the “Customer Message” of the OTIS 2000 - ELD
 For each floor the Customer Message can be displayed (Floor Display)
 modified (Edit Display and Default Display)
 or store into EEPROM (Store Display).

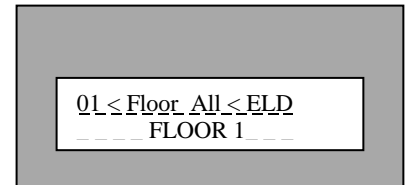
Block diagram



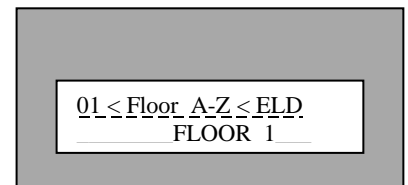
Floor Display: Select Floor and Edit Mode



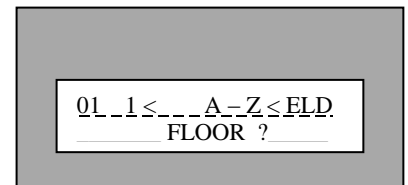
- Key 0-9 ,GOON ,GOBACK:
Selects, decreases or increases the Floor Number (level)
- The current Customer Message which is stored in the EEPROM will be display on the Service Tool (line two).



- Key UP/DOWN:
Selects the Edit-Mode ,which will be used in Edit – Display.

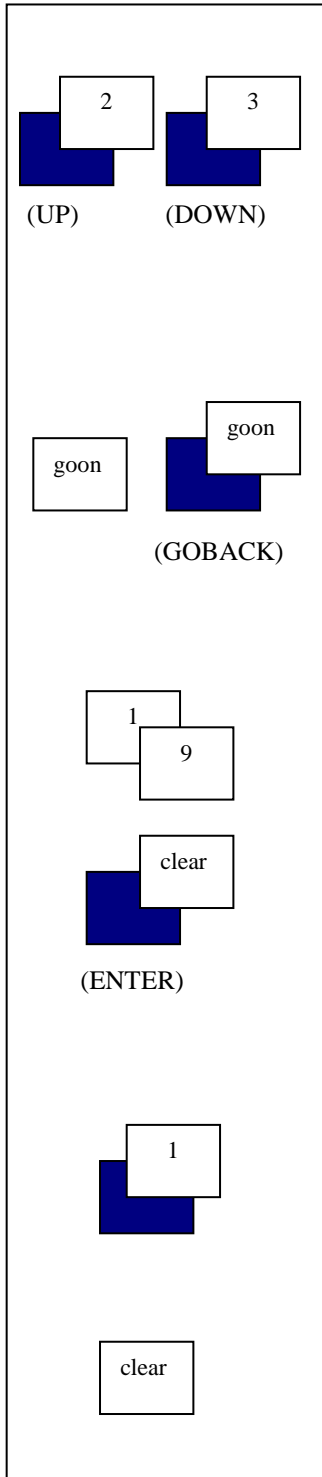
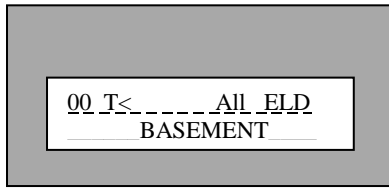


- Key ENTER: Transition to Edit Display

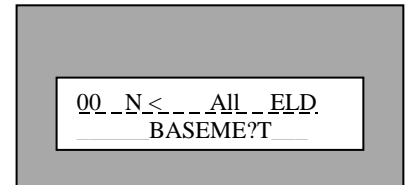


- Key Clear:
Back to Setup – Menu.
Modified Message will be sent to the ELD – Module.

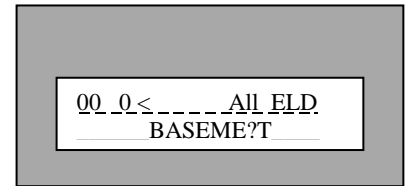
Edit Display : Modify Customer Message



- Key UP / DOWN:
The second row display the current Customer Message.
Use Key UP / Down to select the position of current string you want to modify. The position is marked with a blinking “?”
The selected Character is displayed in the Edit – Field of row one.



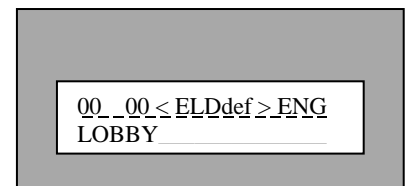
- Key GOON / GOBACK:
Skips through the character set using the selected step width.
(Key - No)



- Key 1 – 9:
Skips through the character set using the selected step width.
(Key-No.)

- Key ENTER:
Transition to Store Display to store the string into EEPROM.

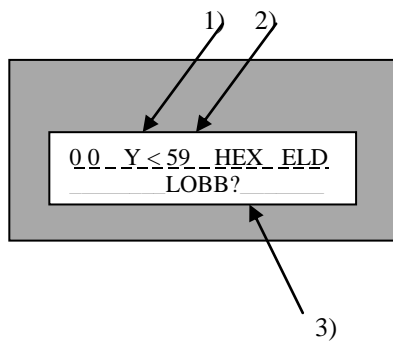
- Key ON:
Transition to Default Display
To use predefined Customer Messages.
(see Reference Table below)



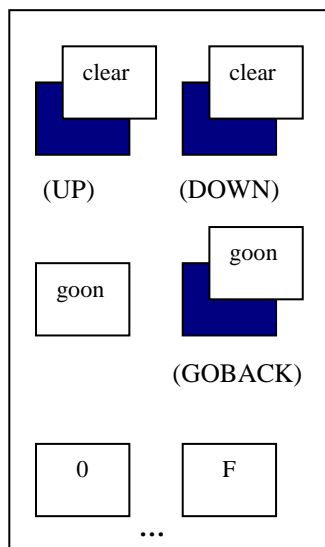
- Key CLEAR:
Back to Floor Display e.g. to change the Edit – Mode. The current Message will be buffered.

Edit Modes HEX and mov

HEX Display

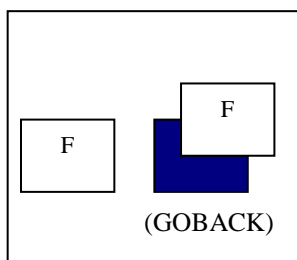
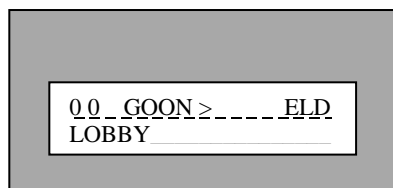


HEX Display	
1) Y	Edit - Field
2) 59	HEX - Field
3)	Display the HEX - Value of the selected character selected Character (Y < - > ?)



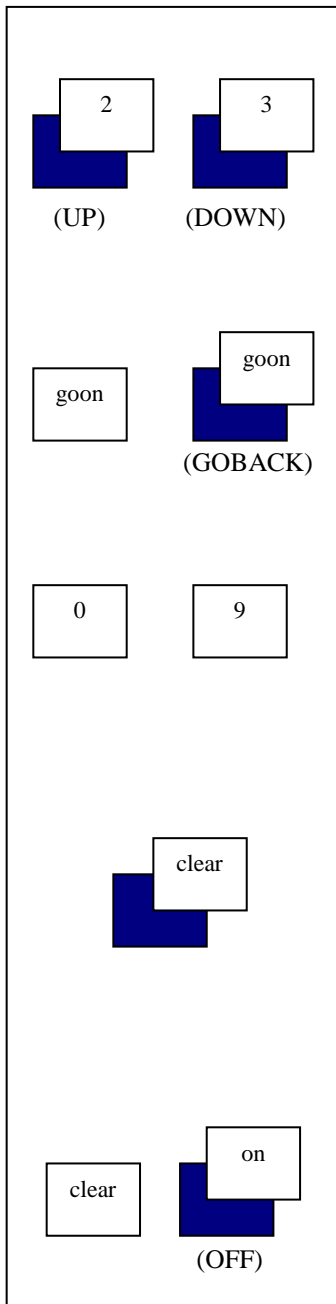
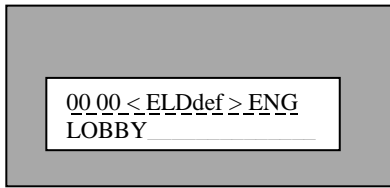
- Key UP / DOWN:
Selects the string position you want to modify.
- Key GOON / GOBACK:
Skips through the character set of Edit – Mode ALL to select the new character.
- Key 0...F:
Input of 2 digits Hex – Code in HEX – Field to define the new character (see Reference Table below).

Mov Display



- Key GOON / GOBACK :
The display message will be shifted to the right/left. It's easy way the center the message on the ELD.

Default Display: Use of predefined messages



- Key **UP / DOWN:**
Selects the language of the Default Message (ENG,GER,ITA)

- Key **GOON / GOBACK:**
Skips through the Default Message List.
(see Reference Table below)

- Key **0 – 9**
Two digits input to select the Default Message by entering
the List – No.
(see Reference Table below)

- Key **ENTER:**
Transition back to Edit Display.
The desired Default Message will be buffered.

- Key **CLEAR, OFF:**
Back to Edit Display without buffering the changes.

Reference Tables for ELD - Function

DEFAULT MESSAGES

NO.	ENG	GER	ITA
0	LOBBY	ERDGESCHOSS	TERRANO
1	BASEMENT	KELLER	SOTTERRANEO
2	PENTHOUSE	DACHTERRASSE	ATTICO
3	FLOOR	ETAGE	PLANO
4	RECEPTION	EMPFANG	RICEZIONE
5	EXIT	AUSGANG	USCITA
6	GARAGE	TIEFGARAGE	POSTEGGIO
7	SECRETARY	SEKRETARANT	SEGRETERIA
8	RESTAURANT	RESTAURANT	RISTORANTE
9	CAFETERIA	KAFFESTUBE	CAFFETERIA
10	GARAGE	PARKHAUS	POSTEGGIO
11	POOL	SCHWIMMHALLE	PISCINA
12	SAUNA	SAUNA	SAUNA
13	DOCTOR	ARZT	DOTTORE
14	0 123 456 789	0 123 456 789	0 123 456 789
15	: . () <> / - , & ' ,	: . () <> / - , & ' ,	: . () <> / - , & ' ,
16	ABCD EFGH IJKL	ABCD EFGH IJKL	ABCD EFGH IJKL
17	MNOP QRST UVWXYZ	MNOP QRST UVWXYZ	MNOP QRST UVWXYZ
18	Ä Á Â Ç Ø ö /E	Ä Á Â Ç Ø ö /E	Ä Á Â Ç Ø ö /E
19	empty string		

HEX – CODE TABLE

ASCII	HEX	ASCII	HEX	ASCII	HEX	ASCII	HEX	ASCII	HEX
Blank	20	0	30	A	41	N	4E	Ä	80
&	26	1	31	B	42	O	4F	Á	81
(	28	2	32	C	43	P	50	Â	82
)	29	3	33	D	44	Q	51	Ç	83
,	2C	4	34	E	45	R	52	A-	84
-	2D	5	35	F	46	S	53	-E	85
.	2E	6	36	G	47	T	54	Ø	86
/	2F	7	37	H	48	U	55	ö	87
:	2A	8	38	I	49	V	56		
<	3C	9	39	J	4A	W	57		
>	3E			K	4B	X	58		
				L	4C	Y	59		
				M	4D	Z	5A		

5.4 TOOLS – Function

M - 2

Key Sequence

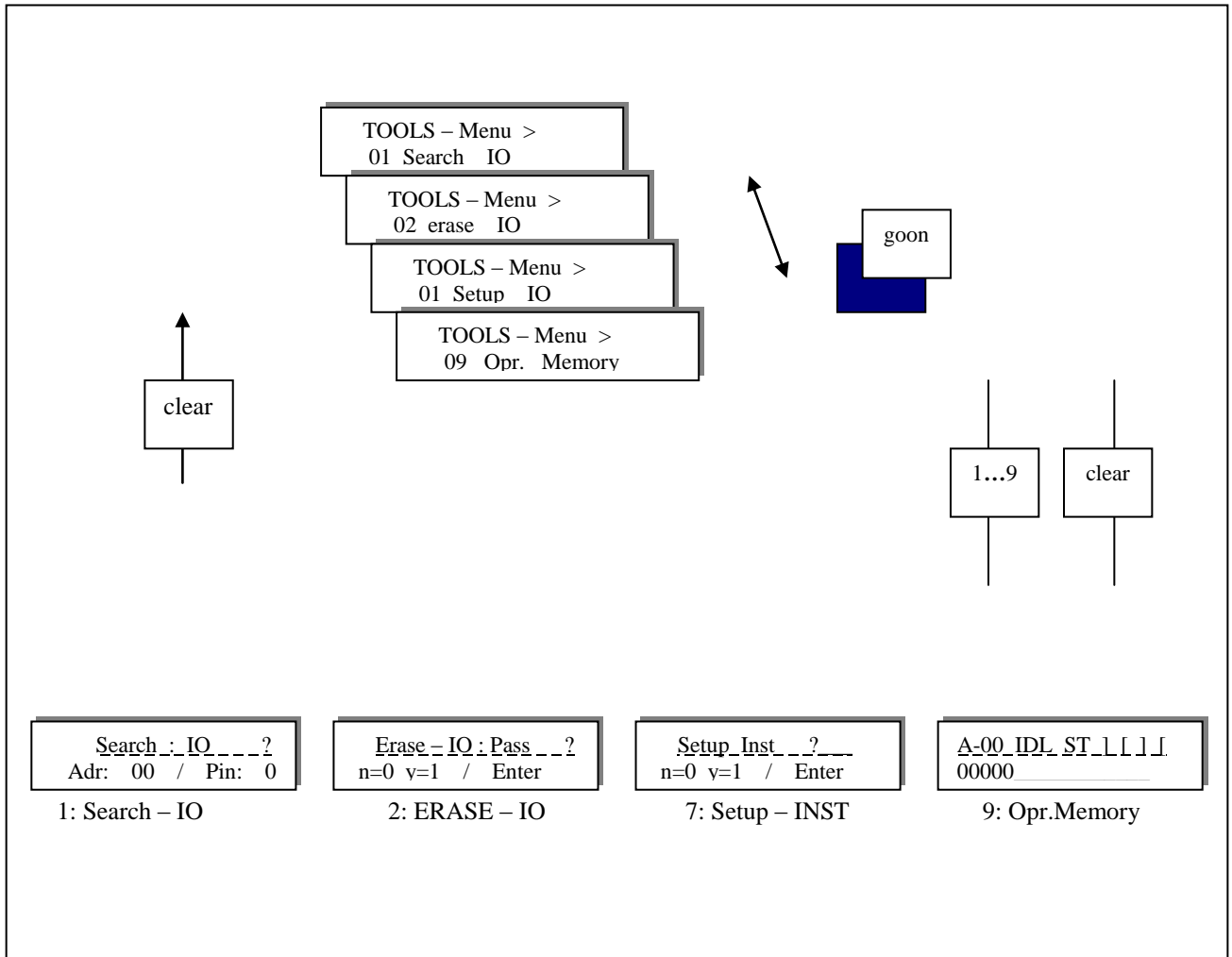


Figure 5-12 :TOOLS - Functions

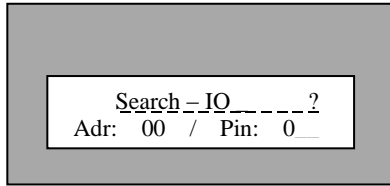
In the following all the TOOLS – functions are explained.

It is a list of 4 functions that makes the installation, debugging and maintenance of the elevator easier.

5.4.1 Search – IO - Function

M – 2 – 1

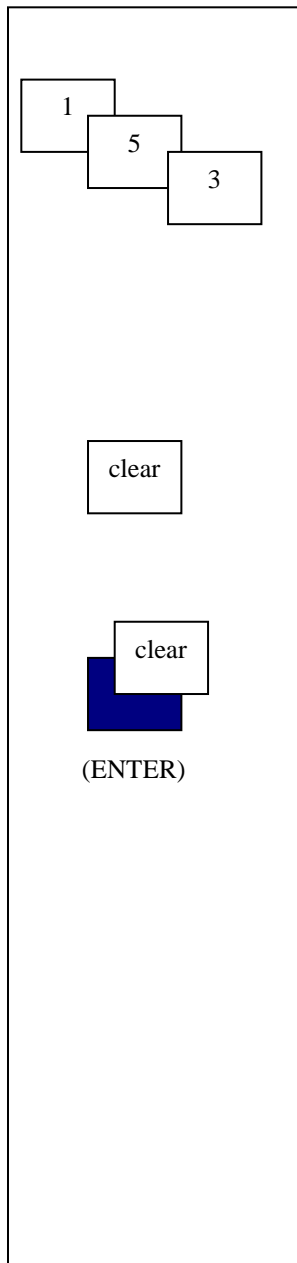
Key Sequence



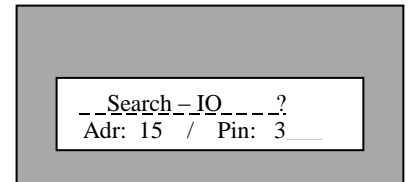
Function **Search – IO** displays **which IO – numbers** Are assigned to a certain **RSL – address / pin**. After input of **Adr.** and **pin** and termination with **ENTER** the Search **Run** begins and will be indicated with the change of : (?) -> (!). The find of an IO – number interrupts the Search Run and the number is displayed. **ENTER** will continue the Search Run

Figure 5-22: Search – IO - Function

Enter Adr. And Pin

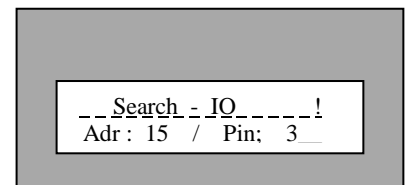


- Key 1,5,3: Input Keys of RSL – **Adr.** and **Pin**



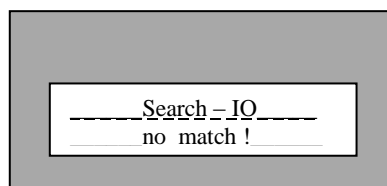
- Key CLEAR: deletes the last input for correction

- Shift Key ENTER: Termination of the input operation and start of the Search Run.

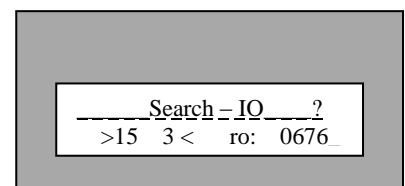


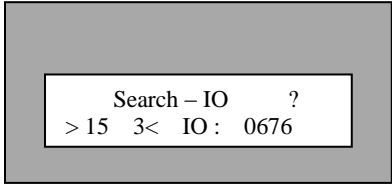
Possible Results:

(a) no IO – number found



(b) first IO – number found





The first **IO** – number is found : **IO :0676**

Now you can continue the Search **Run** with **ENTER**
It is also possible to edit the **Adr./Pin** display > 15 3 <

clear

(ENTER)

clear 4

clear

(ENTER)

clear

- Shift Key **ENTER**:
Continue the Search Run.

If you want to edit the Pin Number ,press:

- Key **CLEAR** ,to delete the last input
- Key **4** ,to enter the new pin

- Shift Key **ENTER** , to continue the Search Run

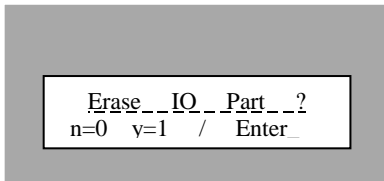
If there is no more IO-number defined,the no more match! – display comes up

- Key **CLEAR**:
back to **TOOLS - Menu**

5.4.2 Erase – IO - Function

Key Sequence

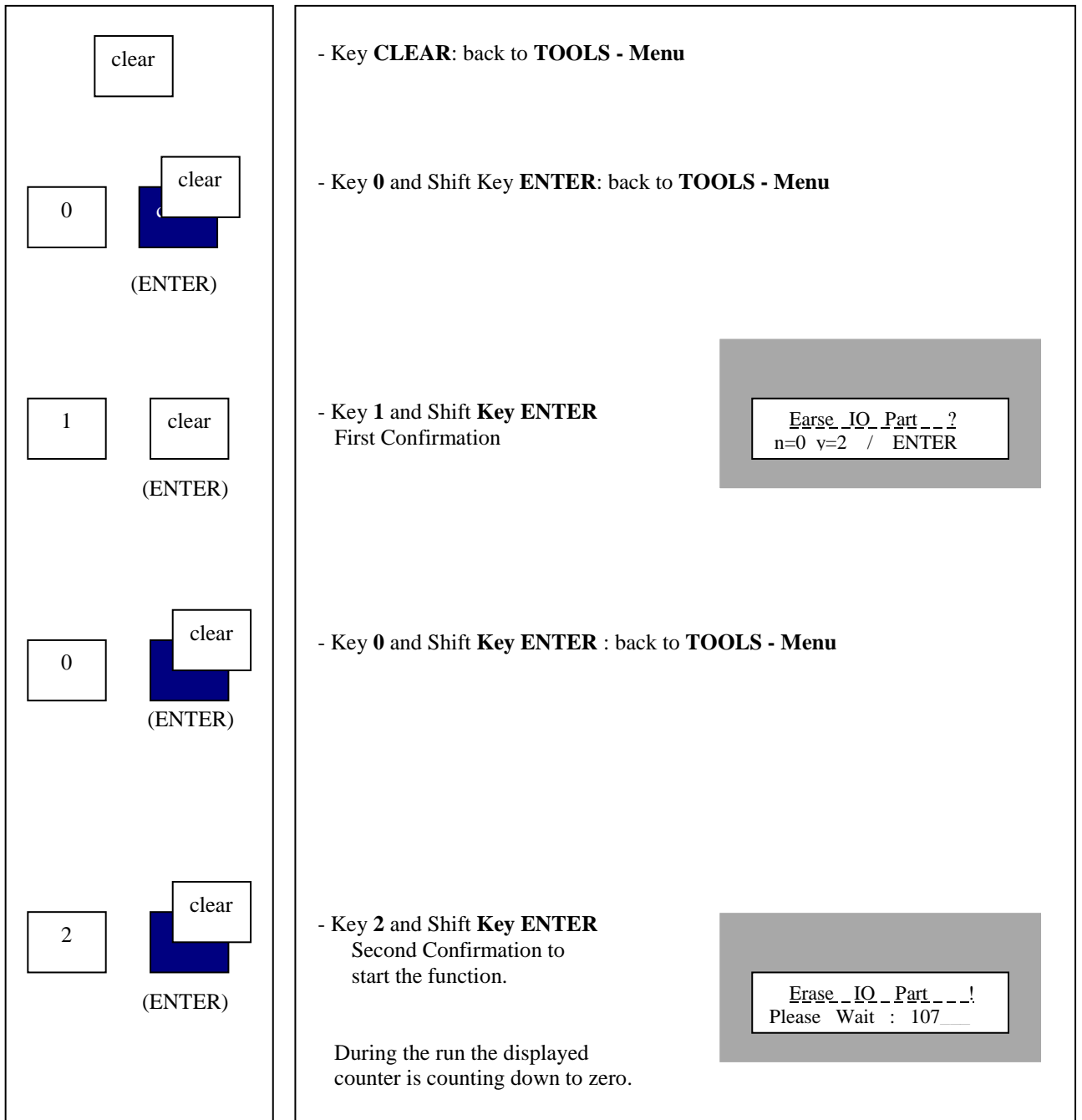
M – 2 – 2



Function Erase IO_Part can be used to set the IO-Part of the EEPROM to default. You have to confirm twice to start the function, because after the run all the previous definitions are lost!

Figure 5 – 23: Erase IO_Part

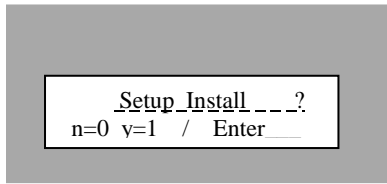
(see document: List of inputs and Outputs)



5.4.3 Setup install - Function

Key Sequence

M - 2 - 3

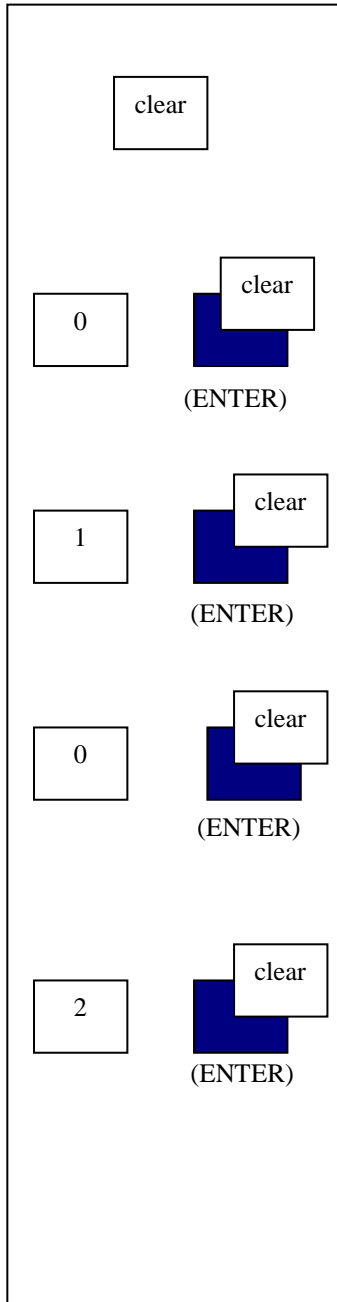


Function Erase Install can be used to set the Install Part of the EEPROM to default.

You have to confirm twice to start the function, because after the run all the previous definitions are lost!

Figure 5 – 24: Erase Install

(see document: List of Installation Constants)



- Key CLEAR: back to TOOLS - Menu

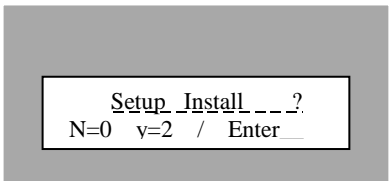
- Key 0 and Shift Key ENTER
First Confirmation

- Key 1 and Shift Key ENTER
First Confirmation

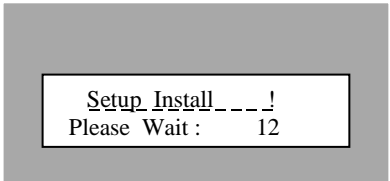
- Key 0 and Shift Key ENTER : back to TOOLS – Menu

- Key 2 and Shift Key ENTER
Second Confirmation to Start the function.

During the run the displayed Counter is counting down to zero.



The screenshot shows a terminal window with the text: `Setup Install ___? N=0 v=2 / Enter__`



The screenshot shows a terminal window with the text: `Setup Install ___!
Please Wait : 12`

5.4.4 Operate Memory

Key Sequence

M - 2 - 9

Function **Operate Memory** can be used to monitor and Change the memory. (You can change only the RAM.) To enter hexadecimal number the Hex Keys are available. The Short **Keys** (see chapter: 4.3) are not active.

(!) Please notice that the **Operate Memory** function is provided only for software debugging.

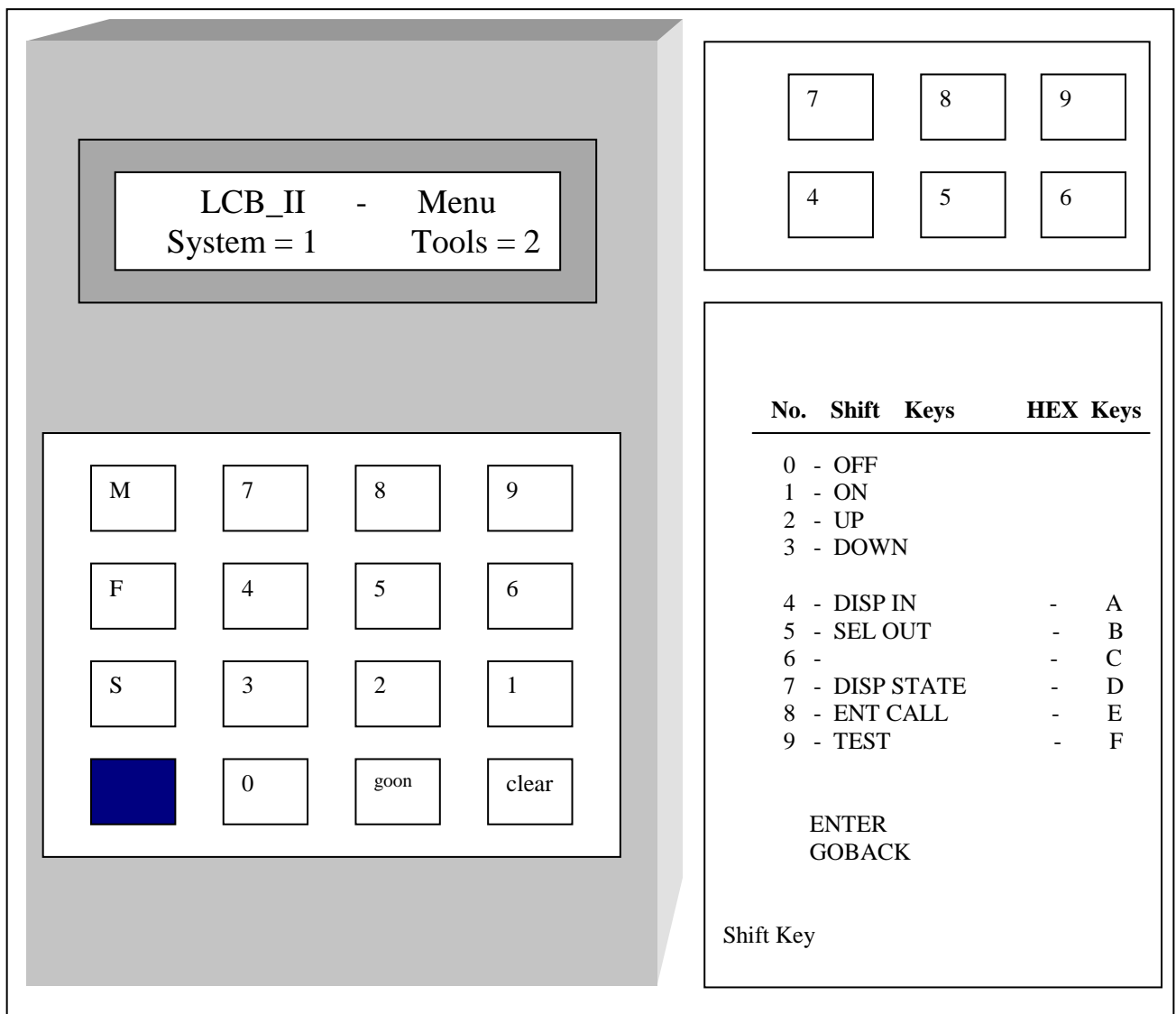
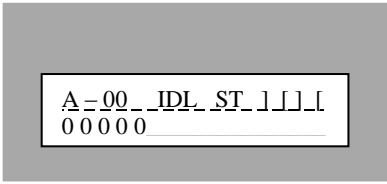


Figure 5 – 25: Hex Keys



The first row of **Figure 5 – 26** display the **Software Status (see:5.1.1)**

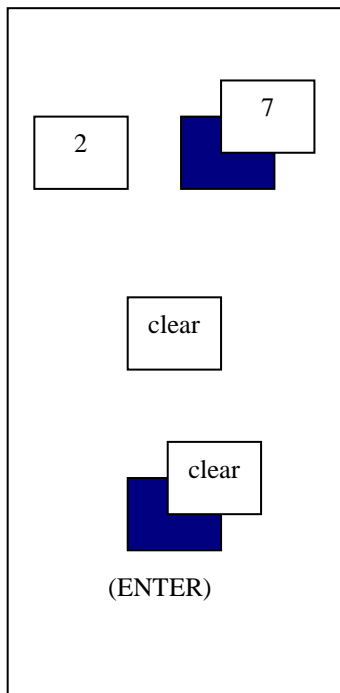
The second row displays the input field for the desired Memory Address.

After the address is entered is entered, the next two bytes of memory are displayed.

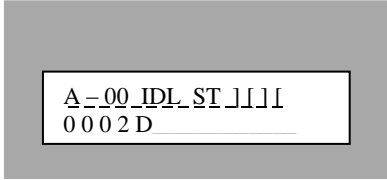
Please notice that PLM – words are stored in the order:
LOW – byte / HIGH - byte

Figure 5-26 : Opr.Memory

Enter the memory address

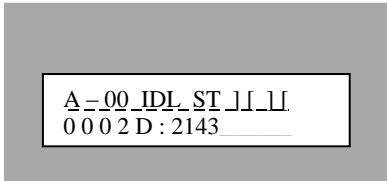
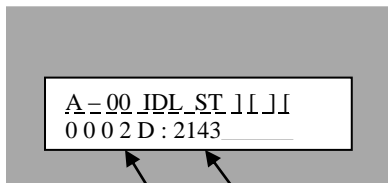


- Key 2.Shift Key 5:Input Keys of the desired Memory Address (2D Hex)



- Key **CLEAR**:deletes the last input if you want to correct the number.

- Shift Key **ENTER**: Termination of the input operation.

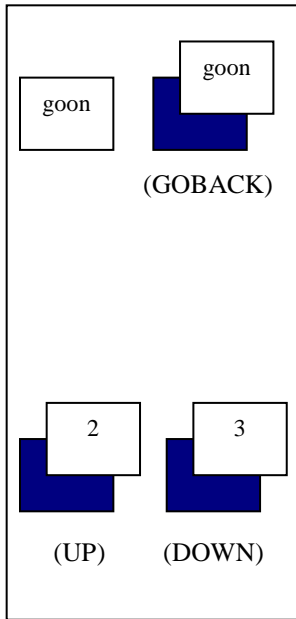



low byte of word at address 0002D

high byte of word at address 0002E

Operate Memory : Monitor	
1) 0 0 0 2 D	desired memory address (2D Hex)
2) 2 1 4 3	memory contents of address 2D and 2E

Change the memory address



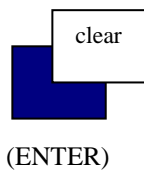
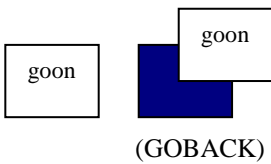
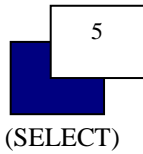
- Key **GOON** / Shift Key **GOBACK**:
Skip to the next / previous
Memory address
(last four digits).

```
A_00_IDL_ST_11_11
0002E:43BA_____
```

- Shift Key **UP** / Shift Key **DOWN**:
Skip to the next / previous
address in steps of 10000h
(first digit).

```
A_00_IDL_ST_11_11
1002E:5B7D_____
```

Change the memory contents



- Shift Key SELECT:
'>' indicates the input field
'----' are placeholders for
the up to four digits of the
new byte resp.two bytes.

```
A-00_IDL_ST_1_1_1_1
0 0 0 2 D : ABCD>----
```

Depending on how many digits are entered the first byte or both or both bytes are stored. The first up to two digits form the first byte and the next up to row digits the second byte.

Examples of changing the old contents ABCD:

Keys	Display	New memory contents
ENTER	----	ABCD
1.ENTER	- 1 --	0 1 C D
1.2 ENTER	1 2 --	1 2 C D
1.2.3 ENTER	1 2 - 3	1 2 0 3
1.2.3.4 ENTER	1 2 3 4	1 2 3 4

- Key GOON / Shift Key GOBACK:
Aborts changing of
memory contents.

```
A-00_IDL_ST_1_1_1_1
0 0 0 2 D : ABCD_____
```

```
A-00_IDL_ST_1_1_1_1
0 0 0 2 D : ABCD>12 - 3+
```

- Key ENTER:
Storing the new byte
resp.two bytes.
A short appearing "+" behind
the entered byte resp. two
bytes acknowledges the
successful storing
failure (e.g.memory address
is out of RAM area).

```
A-00_IDL_ST_1_1_1_1
0 0 0 2 D : 1203_____
```