FIRE AND SECURITY

BS-100 *DYFI*

Operators Handbook

Program Version P1-BS100-3-20
P5-BS100-3E20

CE

AUTRONICA

Protecting environment, life and property...

Contents

Please note!
This handbook contains instructions for operation of fire alarm system BS-100 DYFI ready designed and assembled from the factory.
If the system is to be expanded on site, please see separate handbooks covering internal mounting and internal connections.

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1. Operating /control panel

The operating panel consists of text display (information window), indication lamps, operating buttons and a five elements key-pad.
See below. By means of these control and indication devices, the entire fire alarm system is controlled

Indication devices:

MORE ALARMS
Red lamp lights when more alarms are present.

Textdisplay
(Information window)

FIRE
Red lamp (sign) lights in alarm condition.*

These lamps will have custom designed text. (One is red and the lower two are amber (yellow). See app.A.

DEVICE(S) STILL IN ALARM COND.
Amber (yellow) lamp lights when an address (detector) is automatically disabled.

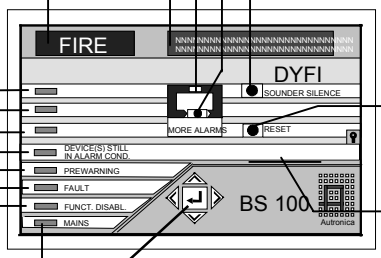
PREWARNING
Amber (yellow) lamp lights with pulsating light when a prewarning situation has occured.*

FAULT
Amber (yellow) lamp lights for any fault.
Pulsating light. *

FUNCTION DISABLED
Amber (yellow) lamp lights when any part of the system is disabled (isolated).

MAINS
Green lamp lights when the power is on.

* Lamps go steady when "Sounder silence" button is operated.



Operating buttons:

MORE ALARMS
This black control button allows the second line of the text display to be scrolled. Revealing additional alarms on the system.

SOUNDER SILENCE
When the red button is pressed, all alarm devices and the internal buzzer are muted.

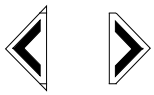
RESET
When the green button is pressed, all events in the system are reset.

PRINTER
Optional printer

Five elements key-pad:

The five elements key-pad
consists of four arrow keys and one "carry-out" (enter) key.
The key-pad is used for information of the system. The four arrow keys control the cursor on the control panel text display.

The keys for scrolling in the menu and for moving the cursor up or down in the menu text on the text display. These arrow keys also scroll figures and letter values when they are to be entered in the menu functions.



Arrow keys for scrolling in the menu and for moving the cursor to the left or to the right in the menu on the text display.

"Carry-out" (enter) key. Select the menu part on which the cursor is pointed.

Fig. no. 1: BS-100 DYFI operating/control panel with indication lamps.

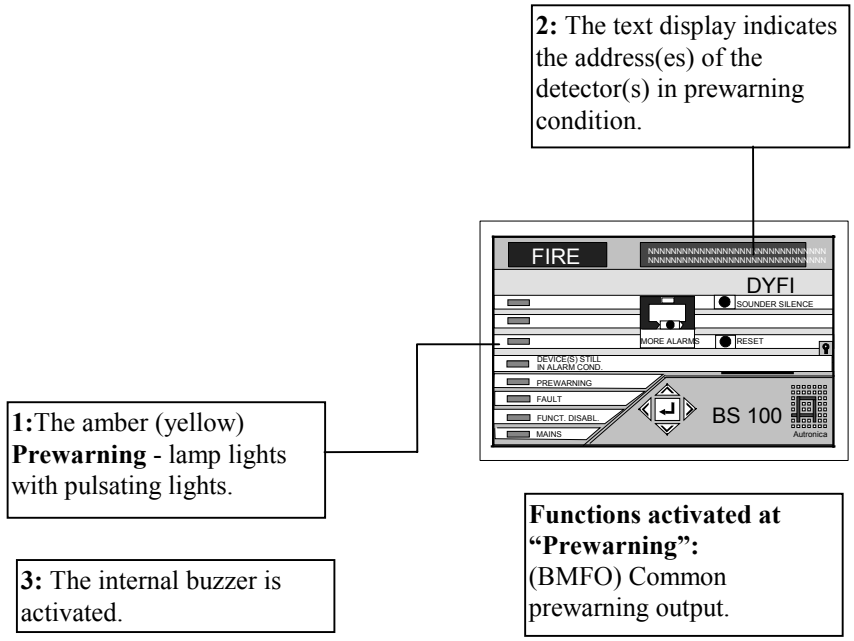
All address related text indicated in the display together with the text printed out on the optional printer may be custom designed.
In this Operators handbook mainly default texts will be used.

Prewarning

2. Prewarning

Indications

2.1 Indications on the control panel in the event of a "PREWARNING"



Example of text in the display (and on the optional printer):

PV 01 ADDRESS NO. 0504
INVESTIGATE PREWARNING LOCATION

Print out on optional printer:

******PREWARNING******
DATE: 15.08.91 T1.04.57
PW 01 ADDRESS NO. 0504

If more than one prewarning events is registered, the display will change to:

PW 01 ADDRESS NO: 0504
02 PREWARNINGS REGISTERED

All active prewarnings may be seen through the menu function "SHOW STATUS", "PREWARNING". Access to the menu is obtained by pressing the ↵ key on the front panel.

Actions

2.2 Actions to be taken in the event of a "PREWARNING":

A. Always treat a "PREWARNING" condition as if it is a fire alarm.

B. Follow all precautions described in the local fire instructions step by step.

C. Open the control panel door.

D. **Press the "SOUNDER SILENCE" button.**

(The built in buzzer will give a short signal approx. every fourth minute as long as the door remains open).

The "PREWARNING" indication lamp will now change to steady light.

E. **Press the "RESET" button.**

Wait for a while, while the following text appears in the display:

```
RESET PROCEDURE IN PROGRESS
WAIT .....
```

This text will remain for up to 60 seconds.
(The seconds are counted on the display with one point appearing every sec. from 0 to 30 sec., and then removed the following 30 sec.)

The reset procedure is executed in this 60 seconds period.

If everything is in a normal condition the following text will appear in the display:

```
RESET  OK
NORMAL CONDITION
```

F. Close the door.

In normal condition only the "MAINS" indication lamp should be illuminated when the door is closed.

Fire alarm

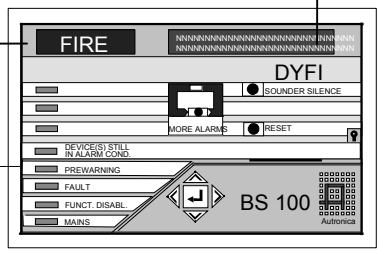
3. Fire alarm

Indications

3.1 Indications on the control panel in the event of a "FIRE" alarm:

1: The red FIRE indication lamp lights with pulsating light.

3: The text in the display indicates the address of the detector which has initiated the first alarm. Possible disablements (isolations) of BMA, bells/sounders and control outputs are indicated in the lower line of the display.



2: If the address initially had given a prewarning, the amber (yellow) **Prewarning** lamp will light with steady light.

4: The internal buzzer is activated.

5: All sounders connected to the fire alarm are activated. (Control of sounder outputs can be custom designed).

Functions activated at alarm condition:
(BMA) Alarm message to the fire-fighters.
(AUX) General control output.
(DHM) Control output for door holders.
Optional custom designed control outputs.

Example of text in the display if detectors with address no. 345 has initiated the alarm.:

AL 01 ADDRESS NO. 0345

Print out on the optional printer:

******FIRE******
DATE: 15.08.91 T1.05.02
AL 01 ADERESS NO.: 0345

Actions

3.2 Actions to be taken in the event of a "FIRE" alarm:

A: Follow all precautions described in the local fire instructions step by step.
When the scene of the fire is investigated and the necessary actions are carried out, the sounders may be switchedoff.

B: Open the control front door.

C: Press the"SOUNDER SILENCE" button.

All alarm devices (including the internal buzzer) will be muted.

The red "FIRE" indication lamp will switch to steady light.

All alarm outputs from the control panel will be turned of when the "SOUNDER SILENCE" button is pressed.
However, the message to the Fire Fighters (BMA-) remains on.

If the silent alarm function (day/night) is in operation, the time delay (T1) will start. Alarm outputs and the BMA-output will not be ativated.

If the alarm is acknowledged within the delay period (T1) by operating the "SOUNDER SILENCE"-button, an additional delay period (T2) will be activated.

If the "SOUNDER SILENCE"-button not is operated within the delay period T1 or reset within the delay period T2, the alarm outputs and BMA will be activated.

The alarm delay of sounder outputs and the BMA-output applies only for alarm from detectors. Alarms from manual call points or 2 or more detectors, over-ride the alarm delays T1 + T2, and the sounder outputs and the BMA-output will operate immediately.

Silent alarm/alarm organisations (list L3.11) is controlled by external manual switch with time controlled relay or automatic from external clock.

If the "MORE ALARMS" indication lamp lights, please see section 4.1

D: Press "RESET"-button.

The following text will appear in the text display:

RESET PROCEDURE IN PROGRESS
WAIT.....

This text will remain in the display for up to 60 seconds.
The reset procedure is as the one described in section 2.2. part E.

See also special functions according to SOLAS-requirements, described in appendix A.

If everything is normal after the reset procedure is carried out, the following text will appear in the display:

RESET OK **NORMAL CONDITION**

This text remains in the display for 15 seconds, and then the menu selection will appear.

After resetting, an address may still be in an alarm condition. This can be due to mechanical demage, water damage, the presence of smoke still within the chamber or an electrical fault. The address still in the alarm condition, will automatically be disabled (isolated from the rest of the system).
The amber (yellow) "DEVICE(S) STILL IN ALARM COND." - indication lamp will light, and the following text will appear in the display:

01 ALARM ADDRESS(ES) DISABLED **CONTROL PANEL IN ABNORMAL CONDITION**

Contact technical personnel.

E: Close the door.

In normal condition only the "MAINS" indication lamp shall remain illuminated when the door is closed.

While an address is automatically disabled, the amber (yellow) "DEVICES STILL IN ALARM COND." indication lamp also will be lit.

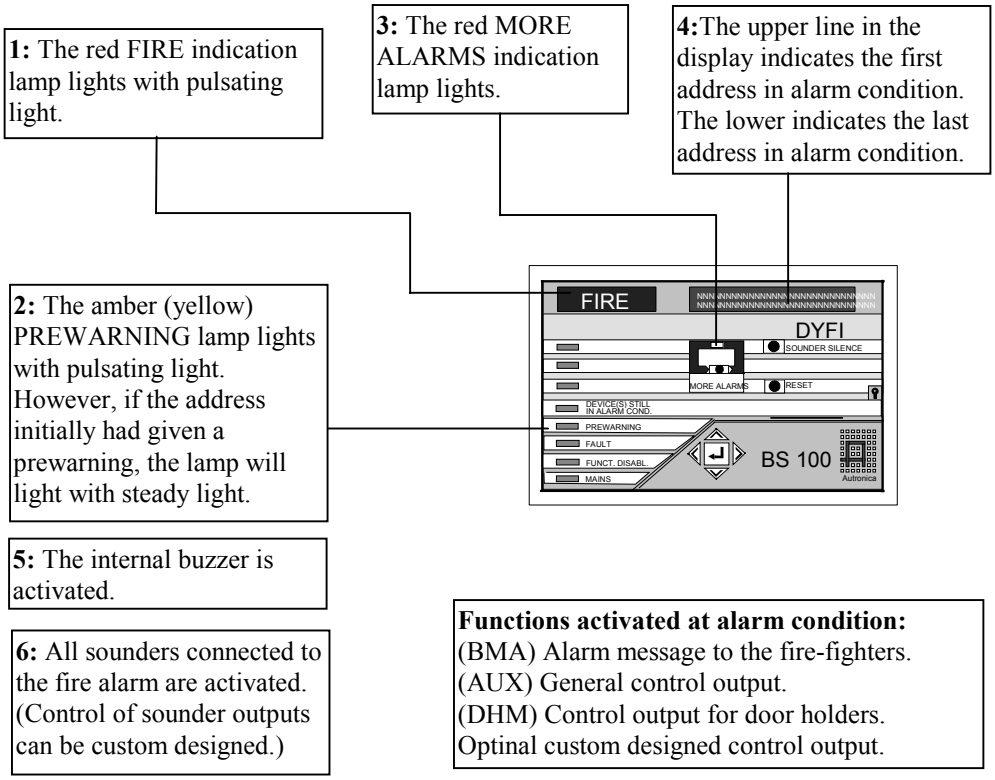
If the alarm condition disappears, the indication lamp will turn off and the address automatically restored to the system.

More alarms

4. More alarms

Indications

4.1 Indications on the control panel in the event of "MORE ALARMS":



Example of text in the display if more then two detector addresses (here we show 3) are in alarm condition:

```
AL 01 ADDRESS NO:  0007
AL 03 ADDRESS NO:  0002
```

Print-out on the optional printer:

```
****FIRE****
DATE: 21.10.91 T1.15.33
AL 03 ADDRESS NO.: 0002

**** FIRE ****
DATE: 21.10.91 T1.15.28
AL 02 ADDRESS NO: 0003

**** FIRE ****
DATE: 21.10.91 T1.15.24
AL ADDRESS NO: 0007
```

Actions

4.2 Actions to be taken in the event of "MORE ALARMS":

A: Follow all precautions described in the local fire instructions step by step.

B: Open the control panel front door.

C: Press the "MORE ALARMS"-button.

At the first time press on the button, the second alarm will normally be indicated on the lower line.

However, if the following functions - BMA, bells/sounders and control outputs are disabled (isolated) this will be indicated on the lower line for a short period before the second alarm is indicated.

Pressing the button a second time will show the 3rd alarm in the display.

Each new press of the button will show the next alarm in the queue.

If the button is pressed for 15 seconds, the last alarm will automatically show on the lower line.

D: Press "SOUNDER SILENCE"-button.

All alarm devices including the internal buzzer will be turned off.

See section 3.2 C for description of silent alarm function (day/night).

The ref "FIRE" indication lamp will switch to steady light.

All alarm outputs from the control panel will be turned off when the "SOUNDER SILENCE" button is pressed.
However, the message to the Fire Fighters (BMA-) is not turned off.

Special SOLAS-functions are described in appendix A.

E: Press "RESET"-button.

The following text will appear in the text display:

RESET PROCEDURE IN PROGRESS
WAIT.....

This text will remain in the display for up to 60 seconds. The reset procedure is identical to the one described in section 2.2.

If everything is in a normal condition the following text will appear in the display:

```
RESET OK
NORMAL CONDITION
```

This text remains in the display for 15 seconds, and then the menu selection will appear.

After resetting, one or more addresses may still be in an alarm condition. This can be due to mecanical damage, water damage, the presence of smoke still within the chamber or an electrical fault. The addresses still in the alarm condition, will automatically be disabled (isolated from the rest of the system).

The following text will appear in the display:

```
01 ALARM ADDRESS(ES) DISABLED
CONTROL PANEL IN ABNORMAL CONDITION
```

Contact technical personnel.

F: Close the door.

In normal condition only the “MAINS” indication lamp shall remain illuminated when the door is closed.

While an address is automatically disabled, the amber (yellow) “DEVICES STILL IN ALARM COND.” indication lamp also will be lit.

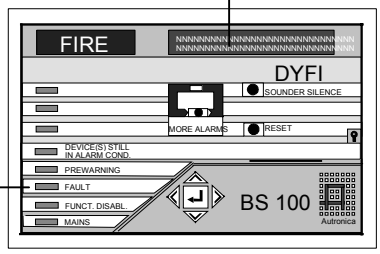
If the alarm condition disappears, the indicator lamp will turn off and the address automatically restored to the system.

Fault

5. Fault

Indications

5.1 Indications on the control panel in the event of "FAULT":



2: The text display indicates the nature of the fault. If the following letters are indicated at the start of the upper line:
FA means loop / detector fault.
SF means system fault.

1: The amber (yellow) FAULT lamp lights with pulsating light.

3: The internal buzzer is activated.

Functions activated at "Fault":
BMF - Common fault warning output.

More faults

5.1.1 Indications at more (multiple) fault

If more (multiple) faults (here we show two) the following indications can be shown in the display:

FA 01 ADERESS NO: 0123
LOOP/DET.FAULT: 1 SYSTEM FAULT: 1

Print out on optional printer:

******SYSTEM FAULT******
DATE: 25.11.91 T1.09.52
SF 1 SOUNDER CIRCUIT 4 OPEN

******DETEKTOR FAULT******
DATE: 25.11.91 T1.09.50
FA 1 ADDRESS NO: 0123
(EO) NO OR SHORT ANSWER-PULSE

This text means that there is one fault present on detector no. 0123, and that there is one system fault present (sounder circuit). The nature of the fault can be identified by using the menu.

Access to the menu is obtained by pressing the ↵-button on the five elements key-pad.

Actions

5.2 Actions to be taken at "FAULT":

A. Press the "SOUNDER SILENCE"-button.

The internal buzzer is muted, and the amber (yellow) "FAULT" indication lamp will switch to steady light.

B: Note the fault text indicated in the display and file the printout from the optional printer.

C: Contact technical /serice personnel.

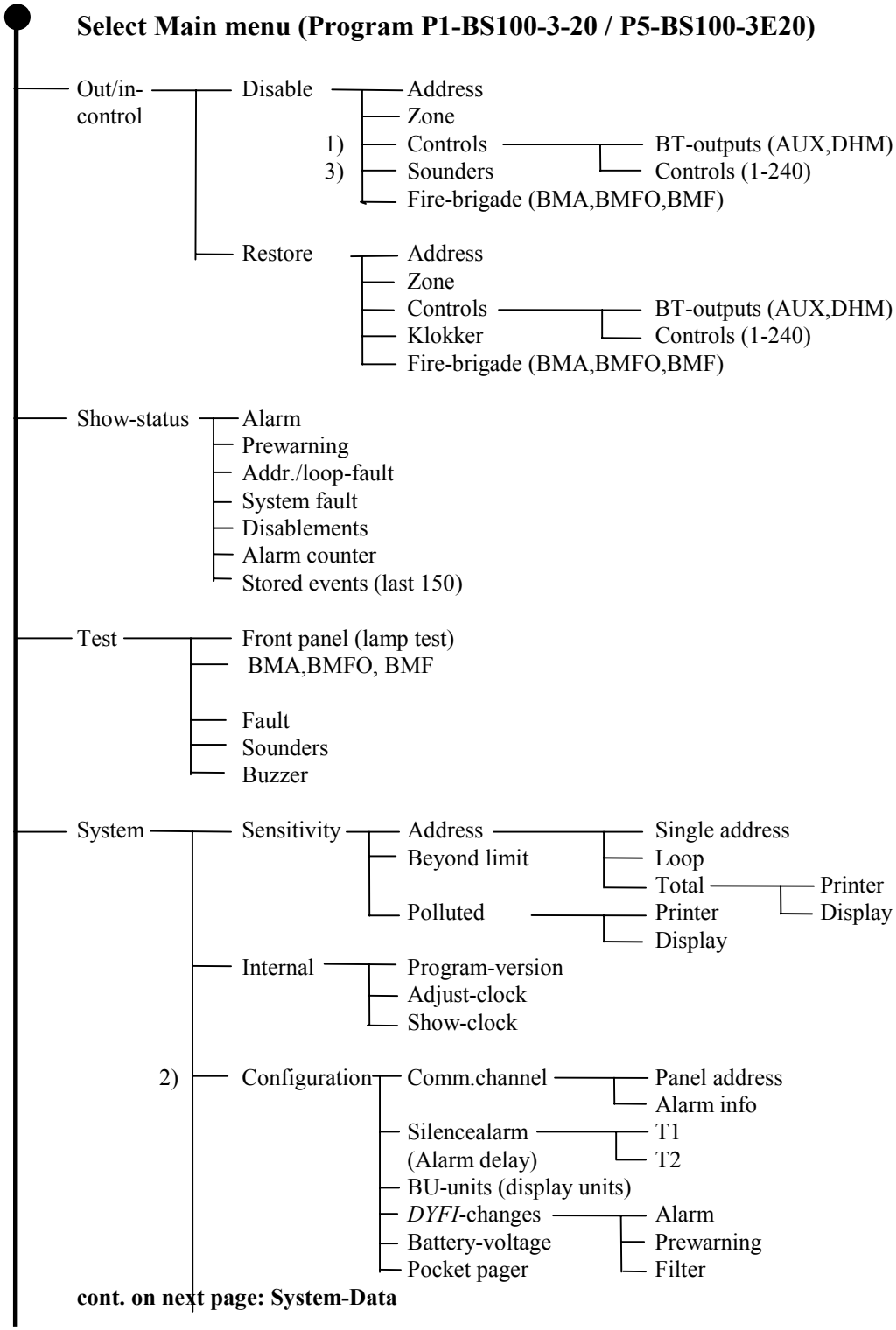
Menu

6. Menu

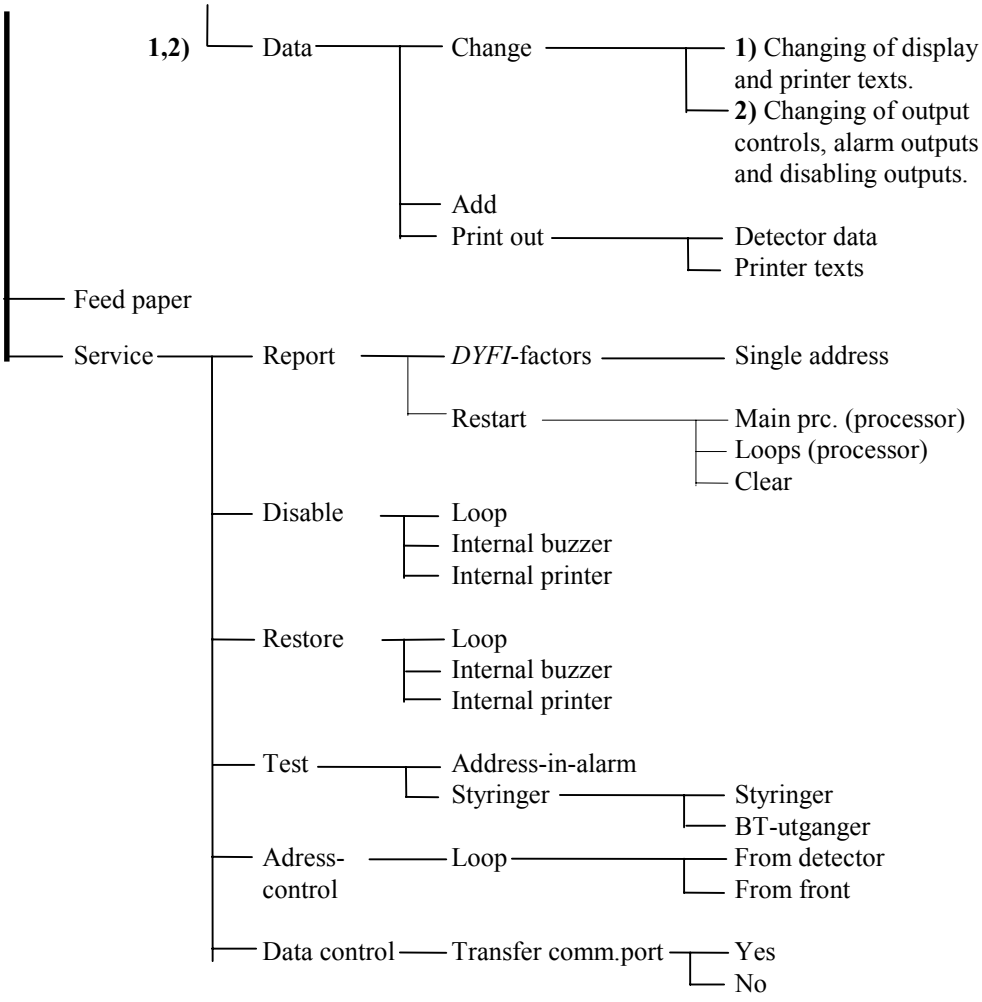
Menu structure

6.1 Menu structure

The whole menu structure is shown here, but "SYSTEM CONFIGURATION" and "SERVICE" is described in full detail within the "Commissioning handbook" - BS-100.



Menu cont...



Select "RET" to go 1 step back in the menu structure.
Select "MM" to return to main menu.

1. Password protected on level 1. (Operator level).
2. Password protected on level 2. (Service level).
3. Can be password protected in different market and installations.

Password

6.2 Password protected functions

Some of the functions in the BS-100 menu are password protected on two levels.

Following functions are password protected:
Password level 1): "OPERATOR LEVEL".

* Disable - Controls
* System - Data
* Disable - Sounders
* Changing of display and printer texts

Password level 2): "SERVICE LEVEL"

* System - Configuration
* Service
* Changing of output controls, alarm outputs and disabling groups.

6.3 Menu operation

Operation

Information given in this section follows the MENU STRUCTURE given in section 6.1.
That particular parts of the menu structure is shown prior to each section in order to ease the function overwiew.

When the control panel front door is opened, the following text will appear in the display:

Short form operators instruction. This appears on the display on the front panel

AUTRONICA FIRE ALARM SYSTEM BS-100 **USER MENU**

Then the text changes to:

SELECT MAIN MENU PRESS ↵ **USERS INSTRUCTION PRESS ⇓**

If the operator selects to read the short form users instruction by pressing the ⇓ arrow key in the key-pad, the following text will appear in the display:

USER INSTRUCTION. PANEL IS OPERATED BY **USING MENU FUNCTIONS. TO CONT. PRESS ⇓**

VARIOUS MENU FUNCTIONS ARE SELECTED BY **USE OF ⇓⇑ AND ⇓⇑ LAST PICT. NEXT PICT. ⇓⇑**

CHOSEN FUNCTION IN MENU IS MARKED AND **IS EXECUTED BY PRESSING ↵ ⇓⇑**

IN ADDITION TO MENU FUNCTIONS THERE ARE **TWO FUNCTIONS WHICH CAN BE USED ⇓⇑**

“RET” WHEN THIS FUNCTION IS CHOSEN, **YOU TAKE ONE STEP BACK IN MENU ⇓⇑**

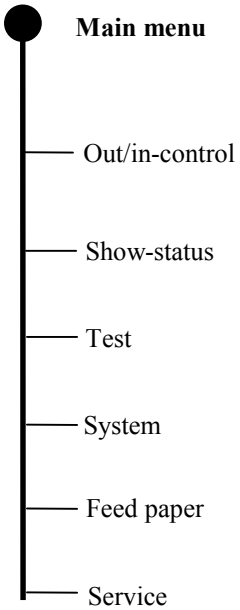
WHEN SELECTING “MM” THAT TAKES **YOU BACK TO MAIN MENU ⇓⇑**

"ARROWS" ARE USED IN ORDER TO BRING UP MORE SUB-MENUES WITHIN SAME MENU LEVEL ⇓⇑

⇓⇑ ALSO TO BE USED WHEN SETTING REQUIR. VALUES OF DIFFERENT PARAMETERS ⇓⇑

⇓⇑ SCROLLING FIGURES / VALUES /CHARACTERS WHEN TO BE SET ⇓⇑

USERS INSTRUCTION FINISHED **TO MAIN MENU: PRESS ↵**



6.4 "Main menu"

If the " MAIN MENU" is selected, part of main menu will appear in the display:

MAIN MENU: SELECT WITH ⇐ ⇒ PRESS ↵ **OUT/IN-CONTROL SHOW-STATUS TEST ⇓**

The arrow pointing down next to the word TEST indicates more text in the line. By pressing the ⇓ arrow key in the key-pad, the remaining text is shown in the lower line:

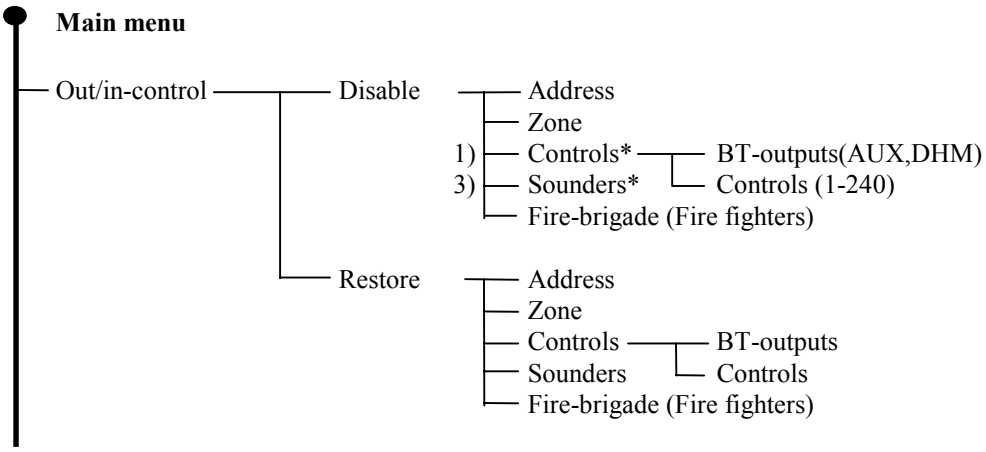
MAIN MENU: SELECT WITH ⇐ ⇒ PRESS ↵ **SYSTEM FEED-PAPER SERVICE RET ⇑**

The required function is selected by moving the cursor by means of the arrow keys in the key-pad on the control panel front.

The function is selected, by pressing the ↵-key.

Out/in-control

7. Out/in-control



If the "OUT/IN-CONTROL" is selected in the main menu, the following text will appear in the display:

OUT/IN-CONTROL: SELECT WITH ⇐ ⇒ PRESS ↵
DISABLE RESTORE MM

Disable

7.1 Disable

When disabling parts of the system, the amber (yellow) lamp "FUNCTION DISABLED" on the front of the control panel will light as long as the disabling lasts.

All disablements must be allocated a time period.
By selecting manually disable time of 99 hours, the function will be disabled until restored. The maximum automatic disable time is 24 hours. When disable time isout, those disabled functions will automatically be restored.

If "OUT/IN-CONTROL" is selected and then "DISABLE", the following text will appear in the display:

DISABLE: SELECT WITH ⇐ ⇒ PRESS ↵
ADDRESS ZONE CONTROLS SOUNDERS ⇓

("FIRE BRIGADE" will appear when ⇓ is pressed.)

Disable address

7.1.1 Disable address

When disabling an address (detector, manual call point or an interface unit), the address will be isolated and not generate an alarm, prewarning or fault as long as the disabling lasts.

If "OUT/IN-CONTROL", "DISABLE" and then "ADDRESS" are selected, the following text will appear in the display:

```
DISABLE ADDRESS(ES)
SELECT ADDRESS   0000                    RET MM
```

Select the address no. to be disabled and press ↵.

The following text will appear in the display:

```
1 ADDRESS(ES) ENTERED FOR DISABLEMENT
ADDRESS  XXXX      TIME                  RET MM
```

The selected address is ready to be disabled.

This address is not yet disabled, - only prepared for disablement!

The next address (XXXX) will automatically appear. Select this or another addres by pressing ↵ .

If selected address is not present in the system, the following text will appear in the display:

```
THE ADDRESS DOES NOT EXIST IN PANEL
LEGAL ADDRESSES xxxx TO XXXX
```

xxxx - lowest address in the system.
XXXX - highest address in the system.

When all addresses to be disabled are selected, move the cursor to "TIME" by means of the arrow key and press ↵.

The following text will appear in the display:

```
DISABLEMENT OF n ADDRESS(ES)
DURATION 02 HOURS                        RET MM
```

n = number of addresses ready for disablement.

The time limit is automatically set to 2 hours (default value).
Press ⇓⇑ to select other values and press ↵ .

The following text will appear in the display:

DISABLEMENT OF ADDRESS(ES) OK
NUMBER: n TOTAL m RET MM

n = number of addresses disabled in this operation.
m = number of addresses disabled total in the system.

Disable zone

7.1.2 Disable zone

It is only possible to disable zones if zones have been programmed in custom data. If not programmed the menu will not allow you to enter zone area.

When disabling zone(s) the addresses in the zone will be isolated and will not generate an alarm, prewarning or fault.

The total number of zones are 240. Zone addresses are 1-240.

If "OUT/IN-CONTROL", "DISABLE" and then "ZONE" are selected, the following text will appear in the display:

DISABLE ZONE 001 NEXT PREVIOUS TIME
'ZONE TEXT' RET MM

Select the zone number for disablement by pressing the ⇑ ⇓ -key.

It is also possible to move the cursor to "NEXT" and "PREVIOUS" and press ↵ to select the zone numbers.

When correct zone number 1-240 is selected, move the cursor to "TIME", press ↵, and the following text will appear in the display:

DISABLE ZONE 001 NEXT PREVIOUS TIME
TIME - DURATION 02 HOURS RET MM

Select duration for disablement and press ↵.

The following text will appear in the display:

ZONE YYY DISABLE
MORE ? YES NO

YYY is selected and that sone is disabled.

If more than one zone is to be disabled select "YES", press ↵ and repeat the disable procedure.
Select "NO" to end the "DISABLE ZONE" procedure.

Disable controls

7.1.3 Disable controls (password protected on operator level).

Disabling controls, ensures that output controls will not activate in the event of a alarm:

DISABLE OUTPUT CONTROLS		
BT-OUTPUTS	CONTROLS	RET MM

7.1.3.1 Disable BT-outputs (DHM, AUX)

If the BT-outputs are disabled, the outputs DHM (door holder magnets) and AUX (control-/alarm output) will not operate at alarm.

If "OUT/IN-CONTROL", "DISABLE", "CONTROLS" are selected and then the "BT-OUTPUTS", the following text will appear in the display:

DISABLEMENT OF BT-OUTPUTS	
DUREATION 02 HOURS	RET MM

Select theduration time fordisablement by means of the arrow keys and press ↵.

The following text will appear in the display:

DISABLEMENT OF BT-OUTPUTS
DISABLEMENT EXECUTED

Press ↵ and the system will return to "DISABLE CONTROLS"-menu with possibility to return to the main menu.

7.1.3.2 Disable controls (BSJ-100/101)

When disabling the controls, the control-outputs from external control-output modules BSJ-100/BSJ-101 will not operate at alarm.

If "OUT/IN-CONTROL", "DISABLE", "CONTROLS" are selected and then the "CONTROLS", the following text will appear in the display:

DISABLEMENT OF CONTROLS **DURATION 02 HOURS RET MM**

Select duration time for disablement by means of the arrow key and press ↵.

The following text will appear in the display:

DISABLEMENT OF CONTROLS **DISABLEMENT EXECUTED**

Press ↵, and the system will return to "DISABLE CONTROLS", with possibility to return to the main menu.

Output controls can be disabled/restored from a superior computer through the communication line..

Disable sounders

7.1.4 Disable sounders (AK) (can be password protected in different countries

- see Appendix A).

When disabling sounder output(s), the sounder(s) will not be activated at alarm. This is applicable for the 4 standard sounder outputs and the outputs from external sounder output board (BSB-100).

If "OUT/IN-CONTROL", "DISABLE" and then "SOUDERS" are selected, the following text will appear in the display:

DISABLEMENT OF SOUNDERS **DURATION 02 HOURS RET MM**

Select the duration time for disablement by means of the arrow key and press ↵.

The following text will appear in the display:

DISABLE SOUNDERS **DISABLEMENT EXECUTED**

Press ↵, an the system will return to the "DISABLE"-menu with possibility to return to the main menu.

Disable Fire Brigade

7.1.5 Disable Fire Brigade (BMA, BMFO, BMF)

When disabling the Fire Brigade output (BMA), prewarning (BMFO) and fault output (BMF) will also be disabled

If "OUT/IN-CONTROL", "DISABLE" and then "FIRE BRIGADE" are selected, the following text will appear in the display:

```
DISABLEMENT OF FIRE BRIGADE OUTPUT
DURATION 02 HOURS                RET MM
```

Select duration time by means of the arrow key and press ↵.

The following text will appear in the display:

```
DISABLEMENT OF FIRE BRIGADE OUTPUT
DISABLEMENT EXECUTED
```

Press ↵, and the system will return to the "DISABLE"-menu with possibility to return to the main menu.

Restore

7.2 Restore

When disable parts of the system (functions) are restored, these will revert to their normal function.

The "FUNCTION DISABLED" lamp will turn off only when all disablements have been retsored.

If "OUT/IN-CONTROL" and then "RESTORE" are selected, the following text will appear in the display:

```
RESTORE: SELECT WITH ⇐ ⇒      PRESS ↵
ADDRESS  ZONE  CONTROLS  SOUNDERS ⇓
```

("RESTORE", "FIRE BRIGADE" will appear when ⇓ is pressed.)

Restore address

7.2.1 Restore address

Before restoring addresses it is always advisable to check the sensitivity to ensure that an alarm is not present.

By restoring the address(es), the addresses will revert to their normal function.

If "OUT/IN-CONTROL", "RESTORE" and then "ADDRESS" are selected, the following text will appear in the display:

RESTORE ADDRESS(ES)
ADDRESS 0000 **RET MM**

Select the address(es) to be restored by means of the arrow key and press ↵.

The following text will appear in the display:

n ADDRESS(ES) RESTORED OK
ADDRESS XXXX **RET MM**

n = number of restored address(es).

The next address (XXXX) will automatically appear. Select that or another address by means of the arrow key and press ↵.

If selected address is not present in the system, the following text will appear in the display:

THE ADDRESS DOES NOT EXIST IN PANEL
LEGAL ADDRESSES xxxx TO XXXX

xxxx - the lowest address in the system.
XXXX - the highest address in the system.

Restore zone

7.2.2 Restore zone

It is possible to restore only if zones are programmed in custom data.

When restoring zones, addresses connected to the zones will revert to their normal function.

If "OUT/IN-CONTROL", "RESTORE" and then "ZONE" are selected, the following text will appear in the display:

RESTORE OF ZONE 001 NEXT PREVIOUS OK
'zonetext zone 1' **RET MM**

Select zone number to be restored by means of the arrow keys and press ⇓⇑.

It is also possible to move he cursor to "NEXT" and "PREVIOUS" and press ↵ to select zone number.

When correct zone number is selected, move the cursor to “OK” , press ↵ and the following text will appear in the display:

```
ZONE  YYY  RESTORED
MORE ?  YES   NO
```

YYY is selected and restored zone.

If more than one zone is to be restored, select "YES", press ↵ and repeat the restoring procedure.
Select "NO" to end the "RESTORE ZONE"-menu.

Restore controls

7.2.3 Restore controls

By restoring the controls, these will activate at alarm.

If "OUT/IN-CONTROL", "RESTORE" and then "CONTROLS" are selected, the following text will appear in the display:

```
RESTORE  OUTPUT CONTROLS
BT-OUTPUTS   CONTROLS              RET MM
```

7.2.3.1 Restore BT-outputs (DHM, AUX)

By restoring BT-outputs, the outputs DHM (door holder magnets) and AUX (control-/alarm output) will activate at alarm.

If "OUT/IN-CONTROL", "RESTORE", "CONTROLS" and then "BT-OUTPUTS" are selected, the following text will appear in the display:

```
RESTORE OUTPUT CONTROLS
RESTORE COMPLETED
```

Press ↵, and the system will return to the "RESTORE CONTROLS" with possibility to return to the main menu.

7.2.3.2 Restore controls (BSJ-100/101)

By restoring the controls, the control outputs from external control output module(s) BSJ-100/BSJ-101 will activate at alarm.

If "OUT/IN-CONTROL", "RESTORE", "CONTROLS" and then "CONTROLS" are selected, the following text will appear in the display:

```
RESTORE OUTPUT CONTROLS
RESTORE  COMPLETED
```

Press ↵, and the system will return to the "RESTORE CONTROLS"-menu with possibility to return to the main menu.

Restore sounders

7.2.4 Restore sounders (AK)

By restoring the sounder(s), the sounder(s) will revert to their normal function at fire alarm. This is applicable for the 4 standard sounder outputs and the outputs from external sounder output board (BSB-100).

If "OUT/IN-CONTROL", "RESTORE", and then "SOUNDERS" are selected, the following text will appear in the display:

```
RESTORE:  SELECT WITH  ⇐⇒  PRESS  ↵
RESTORE COMPLETED
```

Press ↵, and the system will return to the "RESTORE"-menu with possibility to return to the main menu.

Restore Fire Brigade

7.2.5 Restore Fire Brigade/Fighters (BMA, BMFO, BMF)

By restoring the Fire Brigade/Fighters output BMA (Alarm output), BMFO (Prewarning output) and BMF (Fault output), the output will revert to their normal function at alarm, prewarning or fault.

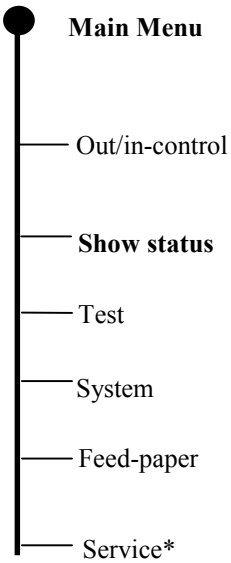
If "OUT/IN-CONTROL", "RESTORE" and then "FIRE BRIGADE" are selected, the following text will appear in the display:

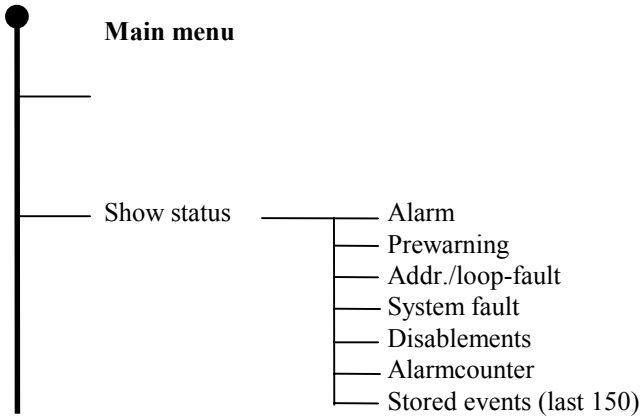
```
RESTORE: SELECT WITH  ⇐⇒  PRESS  ↵
RESTORE COMPLETED
```

Press ↵, and the system will return to the "RESTORE"-menu with possibility to return to the main menu.

Show status

8. Show status





When "SHOW STATUS" is selected, the following text will appear in the display:

SHOW STATUS SELECT WITH ⇐ ⇒ PRESS ↵
ALARM PREWARNING ADDR./LOOP-FAULT ⇓

By pressing the ⇓ key the rest of the text will appear in the lower line.

Alarm:	The last 20 stored alarms
***)Prewarning:**	The last 20 active prewarnings.
***)Addr./loop-fault:**	The last 20 active faults from detectors/detector-loops.
***)System fault:**	The last 20 active system faults.
Disablements:	All stored disablements.
Alarmcounter:	Number of stored alarms.
Stored-events:	The last 150 stored events.

*) = These events are cleared when the "RESET"-button is pressed.
Move the cursor to the required function and press the ↵ key.

For the function "SHOW STATUS", option "ALARM", the text in the display will be:

SHOW STATUS ALARM
ADDRESS 0296 DATE: 11.02.91 TI. 16.25

Use the ⇓⇑ arrow keys to scroll through the stored alarms.
Use the ↵ arrow keys to return to "SHOW STATUS" menu.

Stored events

"STORED EVENTS" is continually up-dated detailing the last 150 events in the system. The last event will always be shown first.

All activities eg. alarms, prewarnings, faults, silence, reset, open and closing front door etc. are stored with date and time.

If the "STORED EVENTS" function is selected, the display will indicate as follows:

SHOW STORED EVENTS
ON : PRINTER DISPLAY RET MM

As indicated in the above, the stored information can be shown in the display or on the optional printer. The printer will start with the latest events.

The optional printer may be stopped at any time simply by pressing one of the arrow keys in the key-pad located on the control panel front.

If display is selected, use the ⇓ ⇑ arrow keys to scroll through "STORED EVENTS".

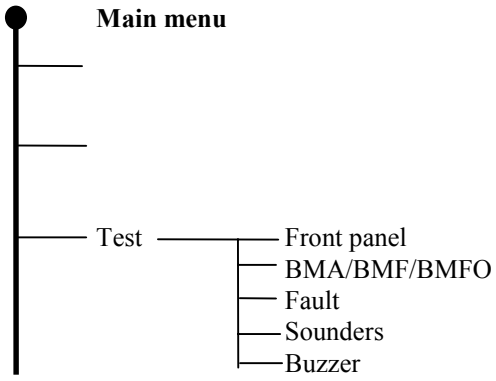
The "STORED EVENTS" function presents the events in a reduced format with date and time.

The content is:

* All alarms.
* All prewarnings.
* All faults (internal and external).
* All button operations at event handling (SILENCE/RESET).
* All automatic disablements at reset.
* All disablements carried out by means of the menu and the arrow keys.
* All disablements executed via data line.
* All manually executed restorations.
* All group disablements, externally controlled.
* All group restorations, externally controlled.
* All functions related to alarm organisation (time delay of external alarm).
* All functions entered (carried out) via password.
* Openings of the control panel front door.
* Closing of the control panel front door.
* "Cold-start", the system has been powered up.
* "Warm-start", ("watch-dog" internal function).

Test

9. Test



When entering the "TEST"-function in the main menu, the following text will appear in the display:

```
TEST
FRONT PANEL  BMA/BMF/BMFO   FAULT ⇓
```

In the lower line the ⇓ arrow indicates more text.

Move the cursor to the required function and press the ↵ key.

Front panel

9.1 Front panel

If the "FRONT PANEL" function is selected, the display is tested by showing all characters, and all lamps on the control panel front will light. The function is stopped by pressing any of the arrow keys. A special test sequence is also printed out on the optional printer, if this is installed. Repeater units may also be tested in this function by opening door (BU-100/101) or operating test button (BU-70).

BMA/BMF/BMFO

9.2 BMA/BMF/BMFO

If the "BMA/BMF/BMFO" function is selected the following text will appear in the display:

```
TEST OF TRANSMISS. LINE TO FIRE BRIGADE
WHEN COMPLETED PRESS  ↵
```

This function will activate the corresponding outputs.
Inform the fire brigade if connected!

Fault

9.3 Fault

If the "FAULT" function is selected the following text will appear in the display:

```
TEST EARTH-FAULT ACTIVE
. . . . .
```

The test process takes one minute. It is indicated by dots appearing in the display for the first half minute. Then the sequence is reversed the next half minute. This test process is a real one, and an genuine earth fault is introduced. The internal buzzer is activated. The test is terminated by pressing the ↵ button.
Normal test function gives earth fault on the central panel.

When this earth fault test sequence is finished, the next sequence will automatically start. The following text will appear in the display:

```
TEST ADDRESS FAULT ACTIVE
. . . .
```

In this sequence the control panels ability to receive fault messages from the detectors/detector-loops is tested. This sequence also lasts for one minute. A fault message on address 0001 will be shown provided this address is not disabled. The fault will activate the internal buzzer.

When this address test sequence is finished, the next sequence will automatically start. The following text will appear in the display:

```
TEST BATTERY ACTIVE
. . . .
```

This sequence (which is a real battery capacity test) lasts for 10 seconds and normally should not give any fault message. (This test is automatically carried out by the BS-100 every day at 10:00 AM).
Before continuing operate the "SOUNDER SILENCE" and "RESET" pushbuttons.

Sounders

9.4 Sounders

When the previous test sequence is completed, return to the "TEST" option and select the "SOUNDERS" sequence by moving the cursor with the arrow keys and then press the ↵ key.
The following text will appear in the display:

```
SOUNDER TEST ACTIVE
WHEN COMPLETED  PRESS ↵
```

During this test sequence all alarm outputs will be activated (0,5 second ON every 8th second). The sequence is terminated by pressing the ↵ key.

Buzzer

9.5 Buzzer

When the sounder test sequence is finished, return to the "TEST" option and select the "BUZZER" sequence by moving the cursor with the arrow keys and then press the ↵ key.
The following text will appear in the display:

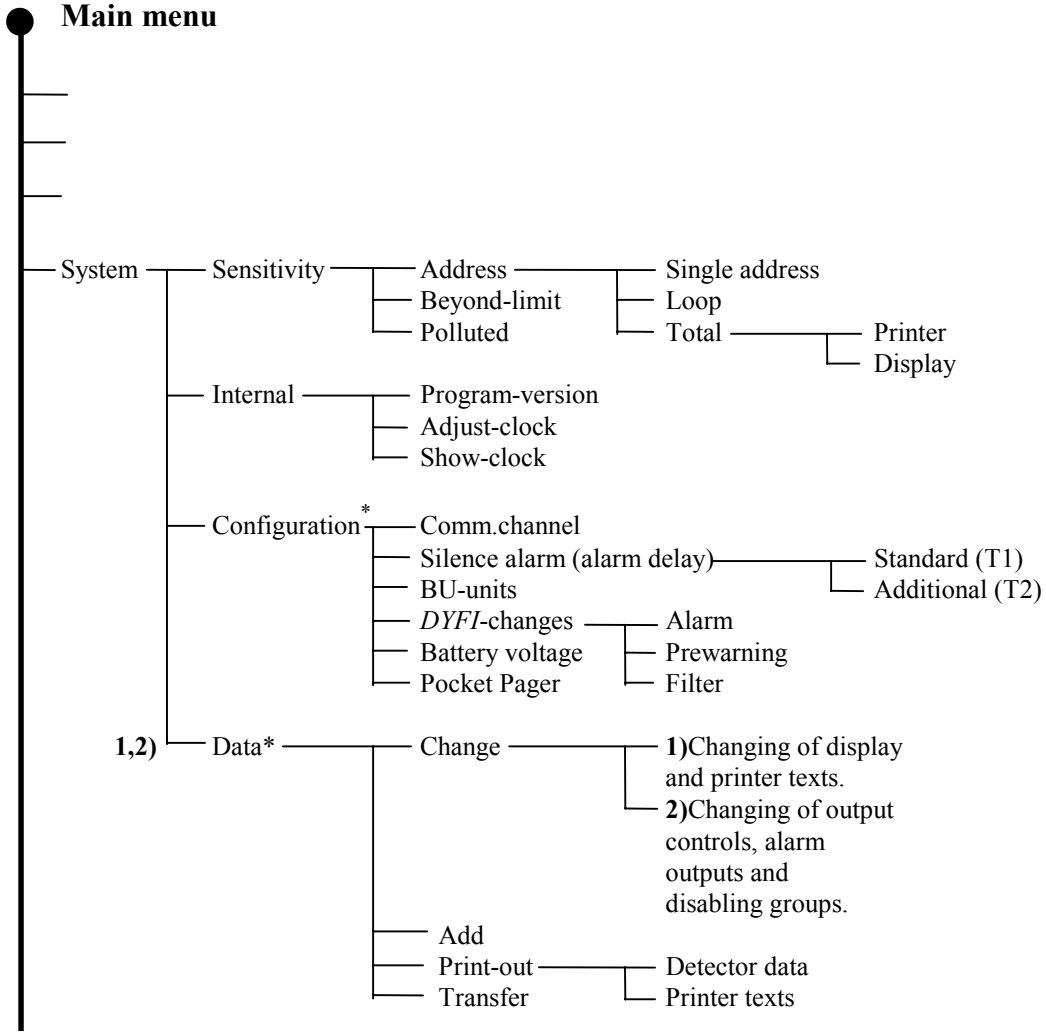
```
BUZZER TEST ACTIVE
WHEN COMPLETED PRESS ↵
```

The built-in buzzer will be activated until the buzzer test sequence is terminated by pressing the ↵ key.

Buzzers on all repeater units will also operate during this test sequence.

System

10. System



*** See section 6.1 - "Menu structure".**

Select "SYSTEM" in the main menu, and the following text will appear in the display:

SYSTEM SELECT WITH ⇐ ⇒ PRESS ↵
SENSITIVITY INTERNAL CONFIG. DATA MM

The rest of the text will appear by pressing the ⇓ key.

Sensitivity

10.1 Sensitivity

The "SENSITIVITY" function enables the user to read the analogue value of an individual detector(address), from a loop or from all addresses connected to the control panel. The analogue value is automatically updated every 5th second. To achieve all advantages available in this function, the optional printer must be fitted to the control panel.
An analogue value may be seen even when the device is disabled.

If the "SENSITIVITY" function is selected by moving the cursor with the arrow- and enter-keys, the following text will appear in the display:

```
SENSITIVITY
ADDRESS   BEYOND-LIMIT   POLLUTED    RET MM
```

10.1.1 Address

By selecting "ADDRESS" the following text will appear in the display:

```
ADDRESS SENSITIVITY
SINGLE ADDRESS   LOOP   TOTAL  RET MM
```

If "SINGLE-ADDRESS" is selected, the following text will appear in the display:

```
ADDRESS SENSITIVITY
ADDRESS: 0000                    RET MM
```

Here it is necessary to select the address number by moving the cursor to the correct column and then set the number in question by using the ⇓ or ⇑ keys. When the correct address no. is set, operate the ↵ key.

If detector address 0001 is selected, the following text will appear in the display:

```
ADDRESS: 0001
SENSITIVITY: 074   WHEN COMPLETED PRESS ↵
```

The analogue value (sensitivity) is updated every 5th second. The value will alter slightly at each update due to minor environmental changes.
(During the first few seconds of the sequence the display will show sensitivity = 000).

Normally the value shall be between 32 and 112 (standard range). Values below 32 indicate detector fault. Values between 112/128 indicate prewarning, and values above 128 indicate fire alarm.

The sequence is terminated by pressing the ↵ key. Another address may now be selected.

If **the sensitivity** (analogue signal) **from all detectors in a loop** is to be checked, the loop number has to be selected from this text in the display:

ADDRESS SENSITIVITY
LOOP 00 **RET MM**

When the loop number in question is selected with the arrow keys and the ↵ key, the following text will appear in the display:
(when selecting loop 01).

ADDRESS LOOP 01
PRINTER DISPLAY RET MM

In this sequence it is possible to select between a print-out from the optional printer, or an indication in the display. The selection is carried out by moving the cursor to "PRINTER" or "DISPLAY" with the arrow keys and then press the ↵ key. The sensitivity value for one detector will remain in the display for about 1 second before changing to the next detector.

This sensitivity sequence can be terminated by pressing the ↵ key. The sequence is automatically terminated when the sensitivity of all detectors has been indicated in the display:

If a **total sensitivity check** is to be carried out, select the "TOTAL" menu option under the "ADDRESS" sequence by moving the cursor to "TOTAL" with the arrow keys and press the ↵ key. The sequence is carried out the same way as described above and a selection between printer or display can be made.

10.1.2 Beyond-limit

If "SENSITIVITY" and then "BEYOND-LIMIT" are selected from the menu, **only detectors beyond limits** are listed out in the display or on the optional printer.
The following text will appear in the display:

ADDRESSES SENSITIVITY BEYOND LIMITS
HIGH LEVEL: 100 LOW LEVEL: 045

The limits appearing in the display are preset at the factory.
Detectors having a sensitivity beyond these limits should be serviced.

The preset limits can be changed by means of the arrow keys. The ↵ key must be pressed to activate the function.

Also in this sequence it is necessary to select if the result shall be presented in the display or printed out on the optional printer. If the display is selected, each detector address beyond the preset limits will be indicated for approx. 5 seconds. The following text appears in the display:

SENSITIVITY BEYOND LIMITS TESTING
ADDRESS: 001 XXX PRESS ↵ TO STOP

This sequence will be automatically completed when all detector addresses beyond limits have been listed, or when the ↵ key is pressed.

The following text will appear in the display:

SENSITIVITY BEYOND LIMITS TESTING
ALL EXAMINED. XXXX BEYOND LIMIT

A smoke detector exposed to air pollution, dust or similar environment will slowly be polluted and may approach the alarm limit. This can lead to an unwanted alarm.
When an address reaches the monitoring level (Between 96 - 103 answer pulse), the BS-100 *DYFI* function will automatically raise the alarm limit so that the quiescent value and alarm level threshold is maintained.

10.1.3 Polluted

If "SENSITIVITY" and then "POLLUTED" are selected, the following text will appear in the display:

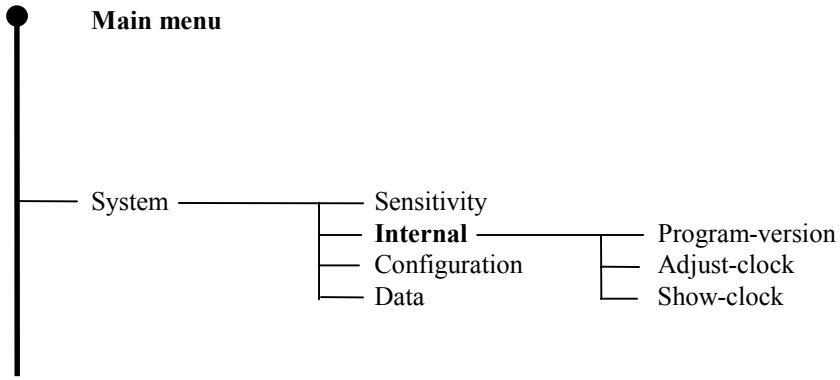
ADDRESSES POLLUTED (LIMIT 9:00)
PRINTER DISPLAY RET MM

As indicated above, a selection has to be taken if the information is to be given in the display or printed out on the optional printer. When this selection has been made, only those detectors which have had their alarm level raised will be shown.

All indicated detectors should be serviced.

Internal

10.2 Internal



10.2.1 Program-version

If "SYSTEM", "INTERNAL" and then "PROGRAM-VERSION" are selected by means of the arrow keys, it is possible to see the programme version present in the system. The following text will appear in the display:

INTERNAL PROGRAM VERSION
PROGRAM: X-XX SYSTEM-TEXT: X-XX

"SYSTEM TEXT" indicates the menu program version.

10.2.2 Adjust-clock

If "SYSTEM", "INTERNAL" and then "ADJUST-CLOCK" are selected by means of the arrow keys, it is possible to adjust the built-in clock. The following text will appear in the display:

ADJUST DATE AND TIME		
DATE: dd.mm.yy	TI: hh.mm	RET

Adjustment of date and time will be stored in "STORED EVENTS" described in section 8.

10.2.3 Show clock

If "SYSTEM", "INTERNAL" and then "SHOW-CLOCK" are selected by means of the arrow keys, it is possible to check that the clock shows the correct time. The following text will appear in the display:

SHOW DATE AND TIME		
DATE: dd.mm.yy	TI: hh.mm	RET MM

Configuration

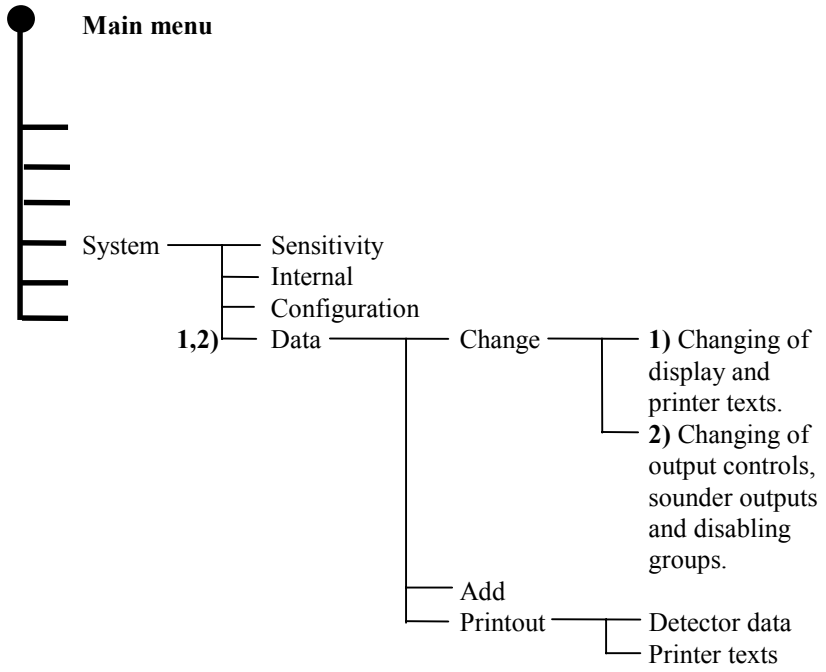
10.3 Configuration

See "Commissioning Handbook" - BS-100.

Data

10.4 System-Data (password protected)

Changing of display and printer texts are password protected on operators level (1).
Changing of output controls, alarm outputs and disabling groups are password protected on service level (2).



All changes and additions to custom designed text, controls, alarm outputs, groupings and printer texts can be implemented in this function. A print-out of all custom text data/site data can also be made by using this function. The function is password protected.

Note! Changing of addresses between programmed zones is not possible through the key-pad.

By selecting "SYSTEM" and then "DATA" after having input the password, the following text will appear in the display:

DATA				
CHANGE	ADD	PRINTOUT		RET MM

Select the required function by means of the arrow keys and press the ↵ key.

10.4.1 Change (site data)

The "CHANGE" function gives possibilities for changing the existing data. Password level 1 only for changing display and printer texts. Password level 2 gives possibilities to change all custom data.

The function has limited capacity. Max. 30 addresses can be changed or added.
When selecting "SYSTEM", "DATA" and "CHANGE" the following text will appear in the display:

```
CHANGE SITE DATA
ADDRESS: 0000                    RET   MM
```

When the address in question is selected by means of the arrow key, press the ↵ key.

10.4.1.1 Display text - Change (Password protected on level 1)

The customised designed text will appear in the display eg.:

```
SITE DATA ADDRESS 0001
0001 LABORATORY 1. FLOOR . ROOM 3.  ⇓
```

By means of the two arrow keys ⇐ ⇒ the cursor is moved to left or right. The changes are carried out by moving the cursor to the letter or figure to be changed and pressing the ⇓ ⇑ arrow keys. Letters in alphabetic order, figures and special signs scroll every time one of the two keys is pressed.

After changing the display text, move the cursor to the end of the line and then the reference number for the printer text will appear in the display (password level 1).

10.4.1.2 Printer text - Changes (Password protected on level 1)

On password level 2, the output control data will appear on the display when moving the cursor to the end of the line.

```
SITE DATA ADDRESS 0001
PRINTER TEXT 0001                ⇓⇑
```

Change the ref. number for the printer text and move the cursor to the end of the line.

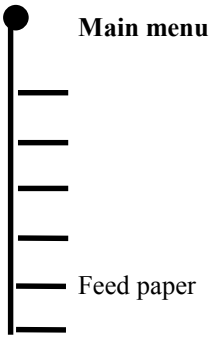
The following text will appear in the display:

SITE DATA ADDRESS 0001 SAVE-NEW-DATA ? RET MM

Keep the cursor in position "SAVE-NEW-DATA" and press ↵ key. Changing of output controls and alarm outputs require password level 2 (service level).

Feed paper

11. Feed paper

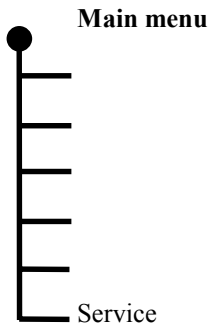


When "FEED PAPER" is selected from the main menu a fixed length of paper is fed from the optional printer each time the ↵ key is pressed.

If the ↵ key is kept constantly pressed, the paper feed continues until the pressure on the key is released.

Service

12. Service



See "Commissioning Handbook" - BS-100.

Appendix A - Country variations

A.1 Strapping

Within the menu / system text EPROM's there is a country code that **must correspond** to the code set with the function code straps (jumpers) W14, W15, W16 and W17 located on the main board BSA-100. The function code is used inside the system program to perform the required functions for that particular country or market, (e.g. SOLAS and Offshore etc.).

Country	Program code Menu program	Function code 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Norway	P5-BS100-3N20	X								X							X
Sweden	P5-BS100-3S20		X							X	X						X
Denmark	P5-BS100-3D20			X						X							X
England	P5-BS100-3E20				X					X			X				X
Finland	P5-BS100-3F20					X				X							X
Holland	P5-BS100-3H20						X			X							X
Italy	P5-BS100-3I20	X						X		X							X
Hungary	P5-BS100-3U20	X							X	X							X
Germany	P5-BS100-3T20	X								X				X			X
France	P5-BS100-3A20	X								X					X		X
Spain	P5-BS100-3P20	X								X						X	X
Poland	P5-BS100-3L20	X								X							X
Strapping field ref. fig. 2.6 in Comm. handbook	W14	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
	W15	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0
	W16	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0
	W17	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0

*) Function code 8 is SOLAS version
**) Function code 15 is OFFSHORE version
I = Installed strap
0 = Open strap

Function codes and belonging functions

Function code / Function no.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Function number	0	7	2	1	1	5	0	0	16	7	0	1	0	0	0	16
See description		12	3	4	3	11			22	12		4				22
		15	14	8	6	15			23	15		10				24
		18	15	9	13					18		21				25
		19	17	10	15					20		23				
		20	23	16												
				21												
				23												

Menu Program **P5 - BS100 - XNXX**

- Version no.
- Language (N = Norwegian)
- Program no.
- Control panel type
- Menu program

System Program **P1 - BS100 - XXX**

- Version no.
- System program

Functions:

Function no.	Description of function
0	Standard function
1	LED no. 2, Lights up when alarm sounders are disabled
2	LED no. 2, Lights up when address control is activated
3	LED no. 3, Lights up when front door is open
4	LED no. 3, Lights up when BMA is disabled
5	Mains LED, Lights when the central panel has working voltage 220V AC or 24V DC.
6	Mains LED, Lights when the central panel is in normal condition
7	LED, "More alarms" is pulsating when more alarms is active, and switched off at the first registrated alarm in the scrolling function
8	Internal buzzer gives signal when detectors are disabled. Silence by pressing silence sounder button.
9	Internal buzzer gives signal when BMA and AK are disabled. Can not be silenced by silence sounder button.
10	Internal buzzer gives signal after pressing silence sounder button in alarm condition.
11	Internal buzzer gives signal every 4th minute when the front door is closed and the central panel is in abnormal condition
12	Disabling of internal buzzer when the front door is open
13	Disabling of BMA, BMFO and BMF when the front door is open
14	Disabling of BMA, BMFO, BMF and output control when the front door is open
15	Output no. 10 (SP) is active when the front door is open
16	System message is given 1 minute after interrupt of 220 VAC
17	System message is given 30 minutes after interrupt of 220 VAC
18	Silence sounders and reset buttons have to be operated for more than 2 seconds
19	Only 4 digit of text on the first line, additional text on the second line
20	BMF is active in normal condition and "OPEN" in fault condition. Resets to active at silence sounders.
21	Disabling of detectors and alarm sounders can be password protected on operator level in different countries
22	Alarm delay for marine installations (SOLAS). See special description.
23	Automatic disabling of detectors in alarm condition after reset has to be accepted within 10 seconds.
24	No automatic disabling of detector in alarm condition after reset
25	Reset time is programmed to be a minimum, also after alarm

Appendix A.2 - Functions

A.2.1 SOLAS (Safety of life at sea)

SOLAS program version can be chosen for any language.

Verification before automatic disablement, see section 3.2 and 4.2 in the "Operators Handbook"- BS-100.

If one or more addresses are still in an alarm condition after the "RESET" procedure, an operator acknowledge is required to have these addresses disabled.
At the end of the "RESET" procedure the following text will appear in the display:

ADDRESS(ES) STILL IN ALARM
TO DISABLE PRESS ↵ WITHIN 10 SECONDS

If the ↵ key is not acknowledged within the limit of 10 seconds, new alarms will be given for these addresses.

By pressing the ↵ key within the time limit, the address will automatically be disabled. To find the addresses concerned, the menu function "SHOW-STATUS", "DISABLEMENTS" should be used.

Alarm delay (T1, T2), see section 3.2 and 4.2.

If the silent alarm input is active the alarm outputs will be delayed by period T1 at alarm from an automatic detector. In the standard version the additional alarm delay period T2 will be started when the "SILENCE SOUNDERS" button is pressed.

For the SOLAS version the alarm delay T2 will not be activated by operate "SILENCE SOUNDERS" and the alarm outputs will be blocked.

This means that there will be no automatic alarm after ended alarm delay T1. If "SILENCE SOUNDERS" is not operated, there will be an automatic alarm at the end of T1.

If more than one alarm is present within time limit of alarm delay (T1), the alarm delay will proceed unchanged from the first alarm and to the end of the selected alarm delay. If "SOUNDER SILENCE" is operated within selected alarm delay, the AK/BMA-outputs will be blocked. If new alarms are registered after operating the "SOUNDER SILENCE", a new delay period will start from the time the new alarm is registered.
If the AK/BMA-outputs are required to be activated the silent alarm input must be removed or a manual call-point operated.

A.2.2 - LPC (England)

Disablement of loop (under service-menu) activates the internal buzzer.

If one or more addresses are still in alarm condition after the "RESET" procedure, an operator acknowledge is required to have these addresses disabled by pressing the ↵ key on the front panel (as SOLAS).

Disablement of internal buzzer is not allowed.

Disabling the sounders through the menu will illuminate the "SOUNDERS DISABLED" lamp.

Disablement of the fire brigade output will illuminate the "FIRE BRIG. DISABLED" lamp.

A.2.3 - Denmark

If one or more addresses are still in alarm condition after the "RESET" procedure, an operators acknowledge is required to have these addresses disabled by pressing the ↵ key on the front panel (as SOLAS).

BMA, BMFO, BMF and output controls are disabled when the front door is open.
System fault is given after 30 minutes interrupt of 220V AC.

A.2.4 - Sweden

Inverted BMF-output (active when there is voltage on the control panel).

Internal buzzer is disabled when front door is open.

Sounder silence and reset button must be pressed for more than 2 seconds to activate the function.

Custom specified address text is presented on line 2.

Appendix B -
Replacing the paper roll in the optional printer

If a printer is fitted, it is located on the inside of the control panel inner door.

A: Open the control panel inner door.
B: Remove the empty roll by releasing the locking clip on the right-hand side of the paper roll shaft, and pull the shaft out to the other side (See fig. A).
C: Let the free end of the new paper roll point downwards. Bend it and guide it into the printer paper slot in the lower end of the printer. (See fig. A).
D: Bend the end of the paper in an arrow shape to simplify the import into the printer paper slot.
E: Put the new paper roll in its correct place, insert the paper roll shaft again and secure it by means of the locking clip.

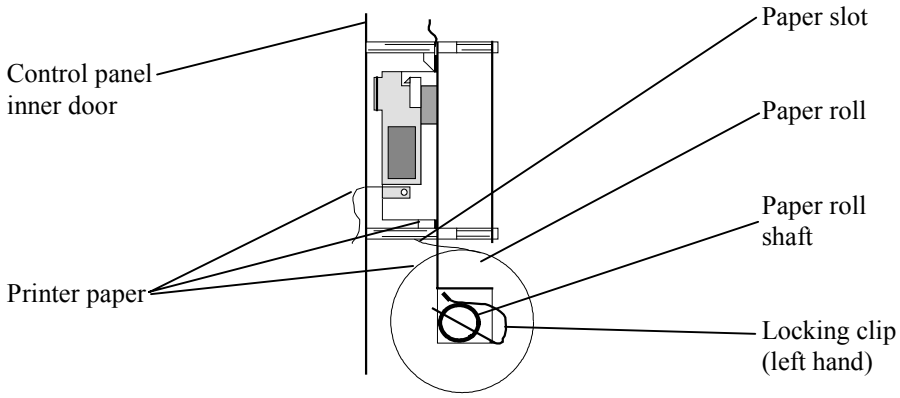


Fig. A: Side view of the optional printer located at the rear side of the inner door.

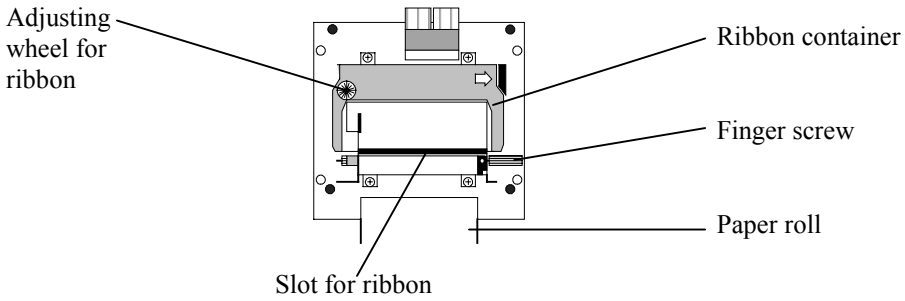
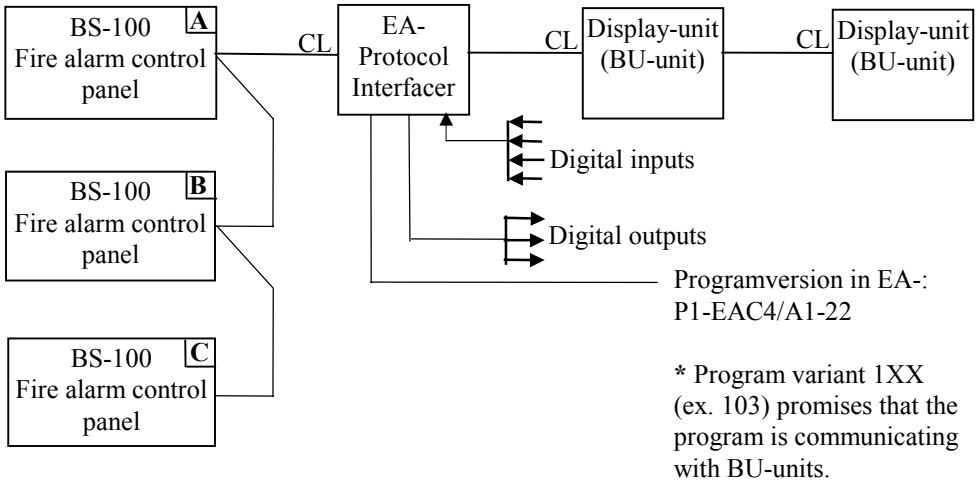


Fig. B: Location of the finger screw on the optional printer (front view).

F: Feed the paper manually through the printer by turning the finger screw. (See fig. B)
G: Close the control panel inner door.

Appendix C -
Multiple BS-100/-Control panels with common repeater units (BU-100/101/70)



There is no communication between the individual BS-100 control panel. Each individual BS-100 control panel gives warning about its own condition and relays this to the common BU-units.

(BU-units, common name for repeater units BU-100, BU-101 and BU-70).

- Custom designed texts within each BS-100 control panel is presented to all BU-units.

- The EA-computer has to contain a special system program for comm. with BU-units.

- Digital in-/outputs can be used as supplement function from EA-.

The table below shows which operator buttons. Indication lamps are fitted to the various BU-units.

Indication lamps	**BU-100**	**BU-101**	**BU-70**
H1 Indicator lamp	X	X	
H2 Indicator lamp	X	X	
H3 Indicator lamp	X	X	
Device(s) still in alarm cond.	X	X	
Prewarning	X	X	X
Fault	X	X	X
Function disabled	X	X	
Mains	X	X	X
More alarms	X	X	X
Operation buttons			
More alarms	X	X	X
Sounder silence	X		
Sounder silence (buzzer)		X	X
Reset	X		

C.1 Alarm /Prewarning / Fault /More alarms

BU-units can be programmed to present fire alarm, prewarning and fault with text on the display.

C.1.1 Fire alarm from a BS-100

Fire alarm message (panel address, loop, detector no. or custom text) will only appear in the display of the BS-100 control panel which has registered the incident and on the BU-units.

BU-100 will present alarm from all detectors, BU-70 and BU-101 can be programmed into presentation zones.

Fire alarm message will only appear in the display of the BS-100 control panel even if the door is open.

Internal buzzer and FIRE indication lamps will be activated on the BS-100 control panel which registered the fire alarm and on the BU-units.

Only the BMA-output on the control panel which registered the fire alarm will be activated.

Only the control outputs on the BS-100 control panel which registered the fire alarm will be activated.

Only the sounders connected to the control panel which registered the fire alarm will be activated.

Alarm output on the EA- will be activated (output L57).

C.1.2 Prewarning

Prewarning message (panel address, loop, detector no. or custom text) will only appear in the display of the BS-100 control panel which registered the prewarning and on the BU-units.

If the front door is open on the BS-100 control panel, there will be no message in the display or transmitted to the BU-units. The message will appear when the door is closed.

Internal buzzer and PREWARNING indication lamps will be activated on the BS-100 control panel which registered the prewarning and on the BU-units.
Only the BMFO-output on the control panel which registered the prewarning will be activated.
Prewarning output on the EA- will be activated (output L58).

C.1.3 Fault

Detector-/System faults registered on a BS-100 control panel will only give message to that control panel and on the BU-units. On the BS-100 control panel the fault message will appear in the display. Internal buzzer and FAULT indication lamp will also be activated.

If the door is open on the BS-100 control panel, there will be no fault message in the display. The message will appear when the door is closed.

On the BU-units the internal buzzer and the FAULT indication lamp will be activated. (No text in the display)

Fault output (not comm.fault) on the EA- will be activated (output L59).

Only the BMA-output on the control panel which registered the fault will be activated.

If a communication failure between the BS-100 control panel and the EA occurs, the fault message will be printed out on the printer on the BU-units. Comm.fault output BS-/EA- will be activated (output L61).

When there is a communication failure between the EA and the BU-units the comm.fault output EA-/BU- will be activated (output L62).

C.1.4 More alarms

The "MORE ALARMS" indication lamp will light on the BS-100 control panel which is registering more than one alarm. When there are two alarms on different BS-100 control panels, the "MORE ALARMS" indication lamp will not light.

The "MORE ALARMS" indication lamp on the BU-units will light if there are more than one alarm registered in the system. Two alarm from two different BS-100 control panels will activate the "MORE ALARMS" indication lamp on the BU-units.

C.1.5 Device(s) still in alarm cond.

After "RESET" the "DEVICE(S) STILL IN ALARM COND." indication lamp may light on the BS-100 control panels which still has addresses in alarm condition. If this lamp lights on one of the BS-100 control panels, it will also light on the BU-units.

C.1.6 Function disabled

The "FUNCTION DISABLED" indication lamp will only light on the control panel which is partly disabled. If this lamp is illuminated on one of the BS-100 control panels, it will also light on the BU-units.

C.1.7 Indication lamps H1, H2, H3

The indication lamps H1, H2 and H3 on the BS-100 control panel are controlled separately.

The indication lamps H1, H2 and H3 on the BU-units are controlled from the control outputs on the EA 2/3 (input L51, 52, 53).

C.2 Operation

C.2.1 SOUNDER SILENCE

C.2.1.1 From fire alarm control panel

When "SOUNDER SILENCE" button on the BS-100 control panel which has registered the alarm is operated, all alarm devices connected to this control panel and the internal buzzer on the BU- units are switched off.
If another BS-100 control panel also is in alarm condition, "SOUNDER SILENCE" also must be operated at that control unit.

C.2.1.2 From EA- or BU-100

If the "SOUNDER SILENCE" is operated from the EA 1/2/3 (separate input) or the BU-100, all alarm devices and internal buzzers on all BS-100 control panels will be silenced.

C.2.2 Reset

C.2.2.1 From fire alarm control panel

When operating the "RESET" on a control panel in abnormal condition (all other control panels are in normal condition), this will reset the entire system.
If another BS-100 control panel is in abnormal condition, operating of the "RESET" will only reset the control panel which is operated.
To reset the entire system (BS-100 and BU-units) operate the last control panel in abnormal condition.

C.2.2.2 From EA- or BU-100

Operating of the "RESET" from EA 1/2/3 or BU-100 will reset the entire system.

C.2.3 More alarms

When operating the "MORE ALARMS" on the individual BS-100 control panels, it is only possible to scroll alarms registered in that particular BS-100 control panel which has been operated.

When operating the "MORE ALARMS" on BU-units, it is possible to scroll alarms registered in the entire system.

C.3 Disable / Restore

Disablements on a BS-100 control panel will activate "FUNCTION DISABLED" only on this control panel and on the BU-units.

Disablements will be stored in "STORED-EVENTS" and only showed in the menu "SHOW-STATUS DISABLEMENTS" on the control panel where the disablement was carried out.

Disablements / restorations of address, zone, controls, sounders and Fire brigade can only be carried out on the individual BS-100 control panel.

C.4 System

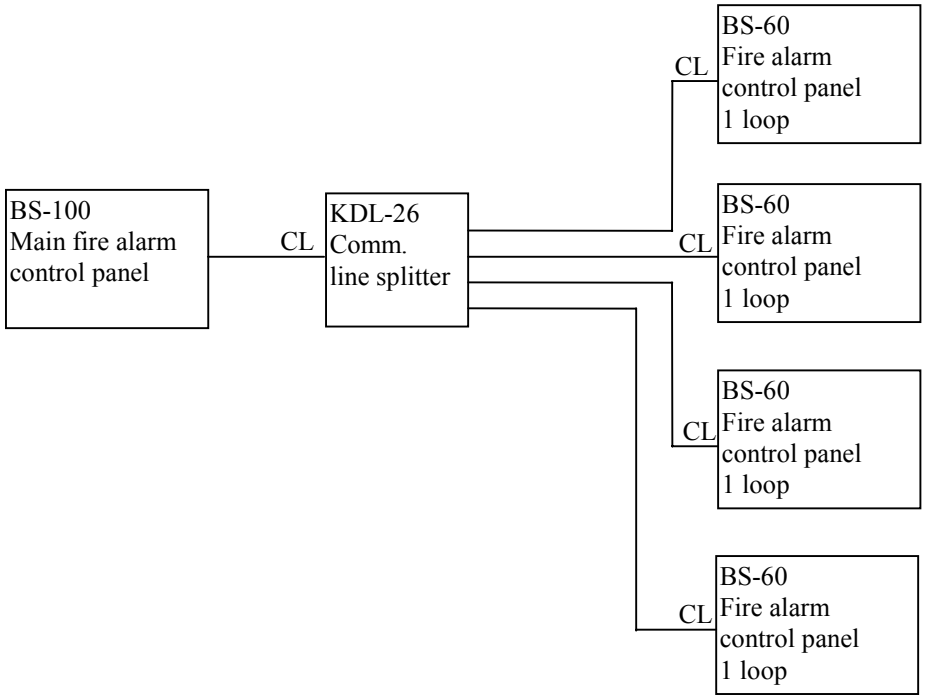
C.4.1 Sensitivity

Sensitivity control must be carried out at each individual BS-100 control panel.

C.4.2 Internal

The real-time clock in BS-100 control panels has to be set manually via menu.
The EA- clock will be set equal to the clock in control panel with address A.

Appendix D -
BS-100 master / Control unit with BS-60 slaves



When a condition (fire, fault, prewarning) is registered on a control panel (BS-100/BS-60), the indication lamps on the panel front will light, the outputs will be activated etc. in the normal way.

The custom texts presented in the display on both BS-100 and BS-60 have to be manually programmed in both control panels.

There is no communication between the BS-60 control panels.

D.1 Alarm /Prewarning / Fault/ More alarms

D.1.1 Fire alarm

Fire alarm from the BS-100 control panel is only registered on the BS-100 control panel. There will be no display of info. on the BS-60 control panel(s).

Fire alarm from a BS-60 control panel is registered on the relevant BS-60 control panel and on the BS-100 control panel.

There will be no display of info. on any other BS-60 control panel.

D.1.2 Prewarning

Prewarning from the BS-100 control panel is only registered on the BS-100 control panel. There will be no display on the BS-60 control panel(s).

Prewarning from a BS-60 control panel is registered on the relevant BS-60 control panel and on the BS-100 control panel.

There will be no display of info. on any other BS-60 control panel.

D.1.3 Fault

(The BS-100 control panel will look at the BS-60 control panels as ordinary loops).

Fault from the BS-100 control panel is registered on the BS-100 control panel. There will be no display of info. on BS-60 control panel(s).

Fault from a BS-60 control panel is registered on the relevant BS-60 control panel and on the BS-100 control panel.

D.1.4 More alarms

More alarms from the BS-100 control panel will only be registered on the BS-100 control panel. There will be no display of info. on the BS-60 control panel(s).

More alarms from a BS-60 control panel will also be registered as more alarms on the BS-100 control panel. There will be no display of info. on other BS-60 control panels.

2 alarms from 2 different BS-60 control panels will be registered as more alarms on the BS-100 control panel.

D.2 Operating

D.2.1 Sounder Silence

The "SOUNDER SILENCE" function will be dependent upon how it is configured within each of the BS-60 control panels.

When operating the "SOUNDER SILENCE" on the BS-100 control panel, all alarm devices will be switched off (also devices connected to the BS-60 control panels).

If the "SOUNDER SILENCE" function is set to "OFF", the "SOUNDER SILENCE" can only be operated from the BS-100 control panel.

If the "SOUNDER SILENCE" function is set to "ON", the "SOUNDER SILENCE" can be operated from both the BS-60 and the BS-100 control panel.

If the "SOUNDER SILENCE" is operated from a BS-60, alarm devices connected to the BS-60 control panel which is operated, will be switched off.

D.2.2 Reset

The "RESET" function will also be dependent upon how it is configured within each of the BS-60 control panels.

When operating the "RESET" from the BS-100 control panel, the entire system will be reset.

If the "RESET" function is set to "OFF", the "RESET" can only be operated from the BS-100 control panel.

If the "RESET" function is set to "ON", the "RESET" can be operated from both the BS-100 and the BS-60 control panel.

When operating the "RESET" from the BS-60 control panel, only the BS-60 which is operated will be reset.

D.3 Disable / Restore

When disabling on a BS-60 control panel, the "FUNCTION DISABLED" indication lamp will light only on this control panel.

This will be logged in "SHOW-STATUS DISABLEMENTS" and in "STORED-EVENTS" only on the current control panel.

It is advisable to disable / restore BS-60 addresses from the BS-100.

D.3.1 Address

The BS-100 can disable/restore all addresses in the system.
The BS-60 can only disable/restore addresses connected to it.

D.3.2 Zone

Only zones defined in the BS-100 control panel can be disabled/restored from the BS-100 control panel. Zones defined in a BS-60 control panel can be disabled/restored only at the relevant BS-60 control panel.

D.3.3 Controls

Controls connected to the BS-100 control panel can only be disabled/restored from the BS-100 control panel.

Controls connected to the BS-60 control panel can only be disabled/restored at the relevant BS-60 control panel.

D.3.4 Sounders

Sounders connected to the BS-100 control panel can only be disabled/restored from the BS-100 control panel.

Sounders connected to a BS-60 control panel can only be disabled/restored at the relevant BS-60 control panel

D.3.5 Fire brigade / fighters

BMA, BMF, BMFO outputs from the BS-100 control panel can only be disabled/restored from the BS-100 control panel.

BMA, BMF, BMFO outputs from the BS-60 control panel can only be disabled/restored at the relevant BS-60 control panel.

D.4 System

D.4.1 Sensitivity

All addresses in the system (including those connected to the BS-60 control panel(s)) can be interrogated from the BS-100 control panel.

From the BS-60 control panel it is only possible to interrogate the addresses connected to it.

D.4.2 Internal

In all control panels the internal clock has to be set manually.

The internal clocks of all control panels are independent and must be set individually.

Autronica Fire and Security AS is an international company, based in Trondheim, Norway and has a world-wide sales and service network. For more than 40 years Autronica's monitoring systems have been saving lives and preventing catastrophes on land and at sea. Autronica Fire and Security's most important business area is fire detection & security. Autronica Fire and Security stands for preservation of environment, life and property.

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- petrochemical, oil and gas instrumentation systems for monitoring and control

In the interest of product improvement, Autronica Fire and Security reserves the right to alter specifications according to current rules and regulations.

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