SIEMENS

FireSeeker
Fire Alarm Control Panel
Model FS-250

Programming Manual

Siemens Building Technologies
Fire Safety

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Introduction

The FS-250 Fire Alarm Control Panels are completely field programmable. Although programming requires no special software skills, a thorough working knowledge of Fire Alarm Control Panels and devices is assumed. There are two ways to program an FS-250 fire alarm system control unit:

1. Auto Program. Using Auto Program will quickly configure the FACP in a General Alarm configuration.

2. Manual Program. Editing the program manually using the keypad.

Both methods require that the Technician password be entered so that the Technician functions may be accessed. Jump to the Quick Start section if you need to get a system up and running quickly.

The Access levels

The FS-250 system has three functional levels as follows:

- User Level, no password is required to access these functions.
- Maintenance Level, accessed using the Maintenance password, allows access to the maintenance menu functions.
- Technician Level, accessed using the Technician password, allows access to trained technician menu functions.

User Level

The User level functions accessible to the system user and are protected from unauthorized use by the lock on the front of the cabinet. Pressing the Menu button on the lower right of the operator interface accesses the user functions. The functions available to the User are

- Activate a General Alarm
- Activate an Alert event
- Activate a Recall event
- Activate a Lamp Test
- Activate a Drill
- View event history
- Go to Maintenance Level (with the password)
- Go to Technician Level (with the password)

Maintenance Level

The Maintenance level is accessed via the User Menu and the correct password. The functions accessible in the maintenance level are:

- Enabling or disabling devices, outputs, groups, zones and option modules
- Configuring and running a Quick Test.
- Printing History
- Printing Detector Levels
- Editing Device and the system label
- Setting the system time and date
- Changing the Maintenance Level access password
- Program a Device
- Clear History

Technician Level

The Technician level is accessed via the User Menu and entering the correct password. The functions accessible in the maintenance level are:

- Configure devices, outputs, groups, zones and option modules.
- Setting System parameters (i.e. automatic silence, alarm silence inhibit, reset inhibit, etc)
- Configure bell codes
- Validate the backup configuration
- Swapping the primary and backup configuration
- Copying the primary to the backup configuration
- Printing the primary and backup configuration
- Changing the Technician Level access password.

The Operator Interface

Interface for User and Maintenance Levels

The operator interface for configuring and programming the FS-250 uses the 4 line by 20 character LCD display, the M1 through M4 buttons on the left and right of the display and sixteen push buttons at the bottom of the interface. User Level and Maintenance Level utilize the LCD display and the four buttons (two on each side of the display) to navigate and alter the basic operation of the panel. The display will show messages in the four corners of the display that will be adjacent to the four buttons M1 through M4. The message on the display adjacent to the button indicates the action that will occur when the button is pressed. So pressing M1 will cause the function labeled as "Menu 1" to be pressed.

M1

M3

```
Menu 1          Menu 3


Menu 2          Menu 4
```

M2

M4
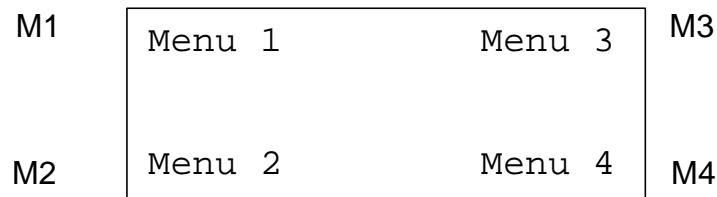
For example, in the following figure, menu item 1 (Lamp Test) is described as having an *Action* of 'Run Lamp Test'. If the button next to Lamp Test is depressed, Lamp Test will be performed. Menu item 2 (View History) will cause the first event in the event history to be displayed on the screen.

Action: Run Lamp

```
Lamp Test        Esc

View
History          More
```

Returns to the top of the list or to the level up

Will display panel History

go to the next screen
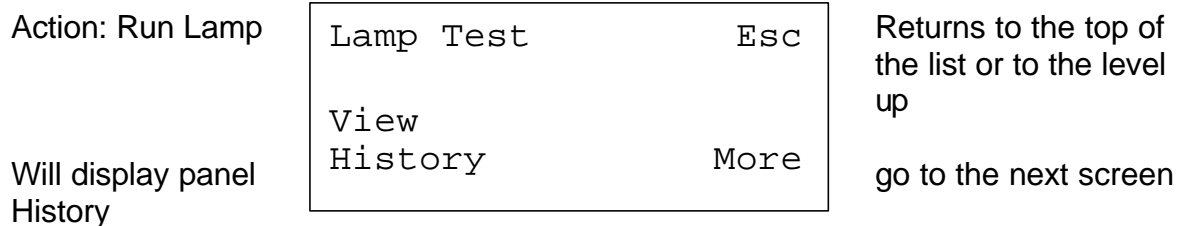
Interface for the Technician Level

When the Technician Level is accessed using the password, the LCD display and the keypad are used to program the panel, and to view the programming if desired. The display acts as a menu and the keypad allows the user to navigate through the menu of functions and change or print the programming. The following figure describes the navigation used in this context:

```
                    Aesc
                    Bfn1
                    Cfn2
                    Dnxt
```

A-esc: will backup to previous screen
B-fn1: will perform function 1
C-fn2: will perform function 2
D-Nxt: will step to the next screen

Each menu item is associated with "**A**", "**B**", "**C**", or "**D**" buttons on the keypad. Pressing one of these keys will cause the panel to go to the function associated with the button.

For example

```
ZNxxx P          Aesc
ZoneType:PRESIG  B+20
Timer:___ Sec    Cmor
To Zone #:___    D +1
```

A-Esc, will backup to previous screen
B-+20 Jumps ahead 20 devices
C-mor shows further options in list
D-+1, Jumps ahead 1

Entering Alphanumeric Characters

Entry of alphanumeric data using keypad is as follows:

- Each character is entered using a two-keystroke sequence on the keypad.
- Numerals are entered using the sequence 0x, where x is the numeral to be entered.
- Letters are entered using 1x, 2x, 3x, and 4x sequences, based on the letters appearing above the numbers on the keypad, where the first digit is the position of the letter, and the second digit is the key on which that letter appears. The letter "Q" is entered using the sequence "27", as though "Q" appears on the "7" between "P" and "R". "R" is entered as "37" and "S" as "47". Similarly, "Z" is entered as "49", as though "Z" appears on the "9" key. Punctuation marks are entered using 5x, 6x, 7x, and 8x sequences, as shown below:

CHARACTER	SEQUENCE	CHARACTER	SEQUENCE
<space>	50	>	70
!	51	?	71
"	52	@	72
#	53	[	73
$	54	¥	74
%	55	]	75
&	56	^	76
´	57	_	77
(	58	`	78
)	59	{	79
*	60	|	80
+	61	}	81
,	62	?	82
-	63	¦	83
.	64		
/	65		
:	66		
;	67		
<	68		
=	69		

Insert and overwrite modes can be toggled using the "**C**" key.

Entering the same letter into a position in overwrite mode will change the case of the letter (i.e. if a position contains the letter "f", and the user enters "33" in overwrite mode, the "f" will change to "F").

A character may be deleted by pressing the "**9**" key.

User Level

Pressing the menu button displays the User level functions. The user menu allows the operator to activate General Alarm, Alert, Drill, Recall or Lamp Test. It also allows for viewing the Event History. The Maintenance Level programming and Tech Level programming can be accessed from the User menu as well.

Following are the various functions that may be performed at the User level.

Activating a General Alarm

It is possible to sound a general alarm from the keypad using the following steps

Press "Menu"	Press "General Alarm"	Display requests Yes/No confirmation of the General Alarm	Press "Yes" to activate a General Alarm. The display will return to normal indicating General alarm has been activated. Reset panel or press "Alarm Silence" to stop.

Activating an Alert

It is possible to sound an Alert from the keypad using the following steps

Press "Menu"	Press "Alert"	Display requests Yes/No confirmation of the Alert	Press "Yes" to activate an Alert. The display will return to normal indicating Alert has been activated. Reset panel or press "Alarm Silence" to stop.

Activating a Drill

It is possible to sound a drill from the keypad using the following steps

Press "Menu"	Press "Drill"	Display requests Yes/No confirmation of the Drill	Press "Yes" to activate a Drill. The display will return to normal indicating Drill has been activated. Reset panel or press "Alarm Silence" to stop.

Activating a Recall

It is possible to sound a Recall from the keypad using the following steps

Press "Menu"	Press "Recall"	Display requests Yes/No confirmation of the Recall	Press "Yes" to activate a Recall. The display will return to normal indicating Recall has been activated. Reset panel or press "Alarm Silence" to stop.

Performing a Lamp Test

It is possible to perform a lamp test of the LEDs on the front of the Panel by following the steps below:

Press "Menu"	Press "Lamp Test"	LEDs in the front panel will be lit for approximately 5 seconds

Viewing the event history

The Event History screen displays the last 2000 events reported to a panel. The information displayed includes the date and time, the type of event (TRB, ALM, SUP etc.), the device reporting the event and the event reported.

Press "Menu"	Press "View History"	The display will show the most recent event	The two buttons on the left of the display (M1 & M2) will scroll forward and backward through the events. The upper right hand button escapes back to the user menu.

Accessing Maintenance functions

There are other functions available after the maintenance password has been entered. Follow the steps below to access the maintenance functions

Press "Menu" and press "more" three times	Press "Maint. Level"	The display will show the screen to enter the four digit maintenance password	Enter the four digit password (default is 0123) and press "Enter"

Maintenance Level

Following are the details of the Maintenance level functions

Enabling/Disabling Devices

The disable / enable screens allow the operator to disable or enable devices and components of the system. System Inputs, Outputs, etc. can be disabled / enabled.

Press "Disable/Enable"	Press "Inputs"	Press "Devices"	Enter the address through the keypad. When the address is entered, the status of the device will be displayed	Use the "Enable(Disable)" button to change the state of the device. Status will toggle on the display

Enabling/Disabling Input Groups

The input group may be disabled/enabled as follows

Press "Disable/Enable"	Press "Inputs"	Press "Groups"	Enter the address through the keypad. When the address is entered, the status of the group will be displayed	Use the "Enable(Disable)" button to change the state of the group. Status will toggle on the display

Enabling/Disabling Applications

The applications in the FireSmart detector that prevent false activation often make it difficult to test the detectors using canned smoke. This function allows the Applications in the detectors to be turned off for testing. A trouble is posted as a reminder to reset them later

Press "Disable/Enable"	Press "Appl."	The display will show the current status of the applications.	Use the "Enable(Disable)" button to change the status of the applications in the FireSmart detectors

Enabling/Disabling the Output Zones

The output zones may be disabled/enabled as follows:

Press "Disable/Enable"	Press "Outputs"	Press "Zones"	Enter the address through the keypad. When the address is entered, the status of the zone will be displayed	Use the "Enable(Disable)" button to change the state of the zone. Status will toggle on the display

Enabling/Disabling NACs

The Notification Appliance Circuits may be disabled/enabled as follows:

Press "Disable/Enable"	Press "Outputs"	Press "NACs"	Enter the number of the NAC through the keypad. The display will show the current state	Use the "Enable(Disable)" button to change the state of the NAC. Status will toggle on the display

Enabling/Disabling City Tie

The City Tie Circuit may be disabled/enabled as follows:

Press "Disable/Enable"	Press "Outputs"	Press "More" and then press "City Tie"	The display will show the status of the city tie	Use the "Enable(Disable)" button to change the state of the City Tie. Status will toggle on the display

Enabling/Disabling the DACT

The DACT (Digital Alarm Communication Transmitter) may be disabled/enabled as follows:

Press "Disable/Enable"	Press "Outputs"	Press "More" and then press "DACT"	The display will show the status of the DACT	Use the "Enable(Disable)" button to change the state of the DACT. The Status will toggle on the display

Enabling/Disabling the Status Relays

The Status Relays   may be disabled/enabled as follows:

Press "Disable/Enable"	Press "Outputs"	Press "More", press "More" and then press "Status Relays"	The display will show the status of the Status relays	Use the "Enable(Disable)" button to change the state of the Status Relays. The status will toggle on the display

Changing the Maintenance Password

The password for access to the Maintenance level menus may be changed as follows from the Maintenance starting screen:

Press "More" three times, then press "Change Password"	The display will show the current password	Use the keypad, "CLR" and "Enter" to change the password

Setting the Time

The time and the time format are adjustable.

Press "More" three times, then press "Time/Date"	Press "Time"	Press "Set Time"	The display will show the time with the cursor under the hours	Use the keypad, "Clr" and "Set" to set the time

Setting the Time Format

The time and the time format are adjustable.

Press "More" three times, then press "Time/Date"	Press "Time"	Press "Set Time Format"	The display will show the current time format.	Use the "12 hour", "24 hour" buttons to set the time format.

Enabling Daylight Savings Time adjustment

The FS-250 can adjust for daylight savings automatically. Follow the steps below to enable or disable the automatic daylight savings adjustment feature

Press "More" three times, then press "Time/Date"	Press "Time"	Press "DST adjust"	The display will show whether the DST automatic adjustment is enabled or disabled.	Use the "Enable/Disable" button to change the status. The state will toggle on the display

Setting the Date

The date and the date format are adjustable.

Press "More" three times, then press "Time/Date"	Press "Date"	Press "Set Date"	The display will show the current date	Use the keypad, "Clr" and "Set" to set the date

Setting the Date Format

The date and the date format are adjustable.

Press "More" three times, then press "Time/Date"	Press "Date"	Press "Set Date Format"	The display will show the current date format.	Use the two date format buttons to select the desired date format.

Clearing the history

The panel can store the last 2000 events in the event history. The information displayed includes the date and time, the type of event (TRB, ALM, SUP etc.), the device reporting the event and the event reported. This event history may be cleared using the following steps

Press "More" three times, then press "Clear History"	The display will then request a yes or no confirmation	Press "Yes" to clear the event history. The display will splash a short message to indicate the history has been cleared

Printing the history

The panel can store the last 2000 events in the event history. The information displayed includes the date and time, the type of event (TRB, ALM, SUP etc.), the device reporting the event and the event reported. This event history may be printed using the following steps.

Press "More", then press "Print Hist."	The display will show the "Print Fwd" and "Print Reverse" options	Select the direction of printing that is desired. The display will show a message that history is being printed.

Printing the sensor levels

The sensitivity levels of all of the detectors in the system may be printed. Follow the steps below

Press "More", then press "Print Sensor Levels"	The display will indicate that the sensor levels are being printed.

Editing the system label

The system label may be changed as follows

Press "More" twice, then press "Edit Labels"	Press "System"	The display will show the system label	Use the keypad keys to change the system label text

Editing the device labels

The device labels may be changed as follows

Press "More" twice, then press "Edit Labels"	Press "Device"	Enter the Device loop address	The display will show the label for the device at this address	Use the keypad keys to change the system label text

Starting Quick Test

The Quick Test mode allows quick and easy testing of the installation. It will allow the devices to be activated and the NACs to sound for a short period of time.

Press "Quick Test"	Press "Start"	The display will prompt for a "Yes" or "No" confirmation to start Quick Test	Press "Yes" to start Quick Test. The display will show NAC sound time and the status of the printer and the time till autoexit.

Configuring NAC sound time for Quick Test

The period of time that the NACs will be active after each event in Quick Test is set as follows.

Press "Quick Test"	Press "Configure"	Press "NAC time"	The display will indicate the time in seconds that the NACs will sound during Quick Test.	Use the "Inc" and "Dec" buttons to set the time from "0" off and 1 to 30 seconds

Configuring the printer during Quick Test

Printing may be enabled or disable during Quick Test as follows;

Press "Quick Test"	Press "Configure"	Press "Printer"	The display will indicate whether the printer is enabled or disabled during Quick Test	Use the "Enable/Disable" button to change state. The display will toggle to indicate the state

Programming a device

It is possible to program a device address without the programming tool. Following is the procedure

Press "more" twice then Press "Program device"	The panel will display a message as it is looking for the new device	When a new device has been found the display will show a screen to enter a device address		Use the keypad, the "Clr" and "Program" buttons to enter the address and program the new device.

APPENDIX A: GLOSSARY

Alarm Signal. A signal indicating an emergency requiring immediate action, such as an alarm for fire from a manual station, a waterflow alarm, an automatic smoke detector, etc.

Alarm Silence Inhibit. An option that prevents a human operator from silencing the notification appliances for a preset period of time.

Alarm System. A combination of compatible initiating devices, control units, and notification appliances designed and installed to produce an alarm signal in the event of a fire or other condition as designed.

Alarm Verification. A preset option that causes the control unit to verify alarms originated by smoke detectors before indicating an alarm.

Annunciator. A remotely located, electrically powered display, separate from the control unit, containing LCD's, LEDs or lamps to indicate the states of the fire alarm system.

Audible Signal. A sound made by one or more audible notification appliances, such as bells or horns, in response to the operation of an initiating device.

Authority Having Jurisdiction (AHJ). The organization, office, or individual responsible for approving equipment, installation or procedures.

Auxiliary Relays. Control relays that energize only during alarm conditions that are used to either apply power to or remove power from other equipment during an alarm condition.

City Tie. Provides connections for shunt, local energy, central station or remote station.

Class A Circuit. An initiating device or notification appliance circuit within which all components remain fully functional, even though a single open or ground exists in the circuit.

Class B Circuit. An initiating device or notification appliance circuit within which some or all components may be disabled with a single open or ground exists in the circuit.

DACT. Digital Alarm Communicator Transmitter (see NFPA 72)

Detector - Smoke, Photoelectric Type. A detector employing the photoelectric principle of reflection or obstruction of light by smoke.

EOLR. End-of-line resistor, used for termination purposes.

FACP. Fire Alarm Control Panel

General Alarm. A term usually applied to the simultaneous operation of all the notification appliances on a system.

Ground Fault. A trouble condition in which a low resistance has been detected between the system wiring and conduit ground.

Initiating Device. A manually or automatically operated device such as a manual pull station, smoke detector, heat detector, waterflow switch or tamper switch.

Initiating Device Circuit (IDC). A circuit to which initiating devices are connected. Also called a detection loop. The FS-250 detection loop may contain up to 252 detectors or devices, all of which may have outputs. Each detection loop will be driven by a FSDLC (Fire Seeker Device Loop card).

Input Group. Detectors and devices are grouped together for convenience into input groups. This will usually represent an area in the building for instance "the first floor".

Labeled. Equipment or materials to which have been attached a label, symbol, or other identifying mark of an organization acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of the production of such labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

Listed. Equipment or materials included in a list published by an organization acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of production of listed equipment or materials, and whose listing states either that the equipment or material meets appropriate standards or has been tested and found suitable for use in a specified manner.

NEC. National Electrical Code, also published as NFPA 70.

National Fire Alarm Code. Also published as NFPA 72.

Notification Appliance. An electrically operated appliance used to indicate the system status, such as a bell, horn, strobe light or speaker.

Notification Appliance Circuit (NAC). A circuit to which notification appliances are connected.

Output Zone. There may be 255 output zones. Normally used to specify an area of the building for signaling. The output devices such as notification appliances, audible bases, relay bases, FS-SAUs and FS-RUs are connected to these output zones so that when the output zones become active these devices will be activated.

Power Supply. That portion of the fire alarm control unit that provides the power needed to operate all control unit modules, as well as that needed to operate all electrically powered initiating devices and all notification appliances.

Quick Test. A term pertaining to the test mode of the system that automatically resets after a service tech tests initiating devices.

Supervisory Alarm. A signal indicating the operation of a supervisory device.

Supervisory Device. A device that monitors the condition of a sprinkler system such as a gate-valve switch, water level switch, low pressure switch, low temperature switch or fire pump monitor.

Trouble Signal. An audible signal indicating trouble of any nature, such as a circuit break or ground, occurring in the device or wiring associated with a fire alarm signal.

Waterflow Switch. An assembly approved for service and so constructed and installed that any flow of water from a sprinkler system equal to or greater than that from a single automatic sprinkler head will result in activation of this switch and subsequent indication of an alarm condition.

APPENDIX B: REFERENCES

- NFPA 72: National Fire Alarm Code (National Fire Protection Association)
- NFPA 70: National Electrical Code (Delmar Publishers)
- FireSeeker Owners Manual
  Model FS-250
  P/N 315-049353-1