

# GENT MODEL 2401 FIRE ALARM PANEL OPERATING INSTRUCTIONS

## 1. Introduction

The fire alarm control panel has been designed to comply with the requirements of BS 5839:Part 4:1988 for use in systems complying with the requirements of BS 5839:Part 1:1988 which are the British Standards for fire detection and alarm systems in buildings. These instructions provide sufficient information to operate the product.

## 2. Operating Instructions

The control panel provides security by virtue of the key operated control enable switch. Indications of events are clearly displayed via the indicator lamps and the Liquid Crystal Display (LCD).

Without the need to operate any of the push buttons the control panel will automatically annunciate fire and fault conditions on the fire detection and alarm system. Silencing of alarm sounders and of the fault buzzer, resounding of the alarm sounders and the operation of the test functions do require the operation of the push buttons and enable controls keyswitch (may also require making links on printed circuit board). Pushes which do not require the operation of the enable controls keyswitch are SCROLL & DISPLAY TEST and may be pressed at any time.

### 2.1 Fire Condition

- Common fire lamp is on
- Appropriate zone fire lamps are on, if applicable
- Internal fire buzzer is actuated
- System alarm sounders are actuated
- Liquid Crystal Display shows 1st fire and the latest fire - press SCROLL to view other fires if scroll lamp is on.

Suggested action to silence alarms and reset system:

- a) Turn enable control keyswitch and press SILENCE ALARMS after the emergency is over, notice the system alarm sounders are silenced and internal fire buzzer changes to pulsed buzzer output, all other fire conditions status remain the same.
- b) Again with the controls enabled press the RESET after the cause of alarm has been investigated, ensure smoke and excess heat have been cleared from detectors and/or broken glass has been replaced in manual call points as necessary.

All control panel indications and outputs will return to their normal condition. After the reset sequence is complete, the scroll lamp will illuminate. This indicates that the SCROLL push can be pressed to view the system status, i.e. which zones are connected to the system and how many devices are connected to each zone. This information serves as a method for the user to check that the correct number of zones and detection devices are present on the system since last commissioned.

If the SCROLL push is not operated within approximately 20 seconds then the information and scroll indication will disappear. Alternatively the indication can be manually cleared by operating the DISPLAY TEST push.

### 2.2 Fault Condition

- Common fault lamp is on
- Appropriate fault lamp on (flashing)
- Appropriate fault message displayed on screen
- Fault buzzer on (pulsing)

Suggested action to rectify fault condition:

Enable controls using the keyswitch. Press CANCEL BUZZER, push after investigating fault, notice the buzzer is silenced but other indications remain active.

Some fault lamps will be extinguished once the fault has been cleared. Others will require the RESET push to be operated in order to clear the fault, some will clear on a loop re-allocation and others will require a total power down of the panel. See fault table A for description of the possible fault messages displayed on the LCD. If the system detects a fire during a fault condition the fault indicator may be extinguished. Details of indication relating to specific faults are shown in table B. Multiple faults are simultaneously

displayed via lamps, also by use of the SCROLL button which will list all fault conditions on the top line of the display. The SCROLL lamp will illuminate if more information is available.

### 2.3 Enable/Disable Options

This function may be used in system commissioning, maintenance and normal mode of operation. The options available do depend on which mode the user is in. See figure 1 for details.

Option	Commissioning Mode	Maintenance Mode	Normal Mode
Zones	yes	yes	yes
Loop	yes	no	no
Auxiliary contacts	yes	yes	yes

Figure 1 Enable/Disable Options

Generally the options available can be selected by first enabling the control panel and pressing the SELECT push. By repeatedly pressing the select push or holding the select push down the enable/disable options can be viewed on the LCD. The LCD displays the message in SELECT MODE whilst the user is in that mode. When the LCD is displaying the desired option, the ENABLE/DISABLE push can be pressed. This will change the displayed message from enable to disable or vice-versa, from disable to enable depending on the condition first displayed.

### 2.4 To Test Lamps, Buzzer and Liquid Crystal Display.

Press the DISPLAY TEST push. All lamps should illuminate, the buzzers should sound high tone for 1 second, low tone for 1 second and the Liquid Crystal Display should be filled with black squares.

### 2.5 To Sound Alarms

It may be necessary to actuate the system alarm sounders when there is no fire indicated on the control panel or to resound the alarm sounders after they have been cancelled during a fire condition.

In order to actuate the alarm sounders turn the enable control keyswitch and press the SOUND ALARMS push. The alarms can then be silenced by pressing the push marked SILENCE ALARMS.

## 3. Routine Testing

### Daily

The British code of practice for Fire Detection and Alarm Systems for Buildings, BS 5839:Part 1:1988, states that the system should be inspected daily to ensure that it is indicating a normal condition and that any previously indicated Fault and Warning condition has received appropriate attention. It recommends entry into the Log Book provided, all system events for future reference.

### Weekly

At weekly intervals a different fire detector or manual call point on the system should be tested. The test should be performed at a regular time to avoid confusion between a test and a genuine alarm. This would also provide a regular reminder to those occupying the premises that there is a fire alarm system with a particular characteristic sound.

### Quarterly

At quarterly intervals the system should be inspected and any work necessary should be performed by a trained engineer responsible for the system.

### 3.1 Log Book

To comply with the requirements of BS 5839:part 1:1988 and to allow those concerned with the fire detection and alarm systems to monitor the long term performance of the system, it is important that a log is kept which includes all the events relating to the performance of the system.

MESSAGE DISPLAYED ON LCD	DESCRIPTION
GENT LTD. SYSTEM 2400	
Addressable Fire Alarm	- System healthy
Resetting System	- System startup
FIRE nn Zone X DET nn	- A fire detected at Zone x
FIRE nn Zone X MCP nn	- Manual Call Point operated on zone x
FAULT Zone X DET nn LOST	- Detector nn removed from base
FAULT Zone X O/C nn	- Wiring open circuit after device nn on zone x
FAULT Zone X Lost S/C	- Wiring short circuit on zone x and zone x de-powered
FAULT Zone X Lost	- Zone Module failure
FAULT H/W Zone X	- Zone Module Hardware fault
FAULT Double Zone X	- Two or more zone modules with the same address
FAULT Zone X Dev>nn	- Too many bases/mcp's on zone
FAULT Loop n OC Zone XY	- Open circuit between two zones or devices on loop
FAULT Loop n SC Zone XY	- Short circuit between two zones or devices on loop
FAULT Alarms n O/C	- Master alarms 1 or 2 open circuit
FAULT Alarms n S/C	- Master alarms 1 or 2 short circuit
FAULT Auxiliary O/C	- Auxiliary relay open circuit
FAULT Auxiliary S/C	- Auxiliary relay short circuit
FAULT Earth	- Earth fault
FAULT Mains	- Mains fault
FAULT Battery 1	- Internal batteries are faulty
FAULT Battery 2	- External batteries are faulty
FAULT Charger 1	- Internal battery charging circuit faulty
FAULT Charger 2	- External battery charging circuit faulty
FAULT System	- Checksum failure
ZONE X DISABLED	} Confirmation of disablement
LOOP DISABLED	
ALARMS DISABLED	
AUXILIARY DISABLED	} Confirmation of enablement
ZONE X ENABLED	
LOOP ENABLED	
ALARMS ENABLED	
AUXILIARY ENABLED	} Confirmation of mode chosen
COMMISSIONING MODE	
MAINTENANCE MODE	} Key confirmation messages
Test nn Zone X DET nn	
Test nn Zone X MCP nn	} Key confirmation messages
ALARMS SILENCED	
ALARMS SOUNDED	} Key confirmation messages
BUZZER SILENCED	
KEY IGNORED	} Key confirmation messages
ZONE X OK nn DEVICES	
IN SELECT MODE	} Key confirmation messages

Table A

Event	Common Fire	Zone Fire	Common Flt	Zone Flt/Disable	System Flt	Common Dsble	Power On	Power Flt	Sndr Led	Aux Led	Scroll Led	Buzzer	LCD Message
Normal Condition	Off	Off	Off	Off	Off	Off	On	Off	Off	Off	Off	Off	Gent Ltd. System 2400 Addressable Fire Alarm
Fire Condition	On	On	Off	Off	Off	Off	On	Off	Off	Off	*	Cont low tone	Fire nn Zone x Det n
Disable Zone	Off	Off	Off	On	Off	On	On	Off	Off	Off	*	Int high tone	Zone x Disabled
Zone Fault	Off	Off	Pulse	Pulse	Off	Off	On	Off	Off	Off	*	Short pulses high tone	Fault Zone x O/C n Fault Zone x S/C n Fault Zone x Det/MCP n Lost
Mains Fault	Off	Off	Pulse	Off	Off	Off	Off	Pulse	Off	Off	*	Short pulses high tone	Fault Mains
Battery Fault	Off	Off	Pulse	Off	Off	Off	On	Pulse	Off	Off	*	Short pulses high tone	Fault Battery 1 Fault Battery 2
Charger Fault	Off	Off	Pulse	Off	Off	Off	On	Pulse	Off	Off	*	Short pulses high tone	Fault Charger 1 Fault Charger 2
Earth Fault	Off	Off	Pulse	Off	Off	Off	On	Off	Off	Off	*	Short pulses high tone	Fault Earth
Sounder Fault	Off	Off	Pulse	Off	Off	Off	On	Off	On	Off	*	Short pulses high tone	Fault Alarms 1 O/C Fault Alarms 1 S/C Fault Alarms 2 O/C Fault Alarms 2 S/C
Aux Fault	Off	Off	Pulse	Off	Off	Off	On	Off	Off	On	*	Short pulses high tone	Fault Aux O/C Fault Aux S/C
Loop Fault	Off	Off	Pulse	Off	Off	Off	On	Off	Off	Off	*	Short pulses high tone	Fault Loop O/C nn Fault Loop S/C nn
System Fault	Off	Off	Pulse	Off	On	Off	On	Off	Off	Off	*	Cont high tone	Fault System
Sounder Dis	Off	Off	Off	Off	Off	On	On	Off	On	Off	*	Int high tone	Alarms Disabled
Aux Dis	Off	Off	Off	Off	Off	On	On	Off	Off	On	*	Int high tone	Auxiliary Disable
Loop Dis	Off	Off	Off	On	Off	On	On	Off	Off	Off	*	Off	Loop Disable
Mode													
Maintenance	Off	Off	Off	Off	Off	On	On	Off	Off	Off	*	Off	Maintenance Mode
Commissioning	Off	Off	Off	On	Off	On	On	Off	Off	Off	*	Off	Commissioning Mode

Key \* - This should be on if there is further information to be displayed on the LCD.

Cont - Continuous

Int - Intermittent

Table B