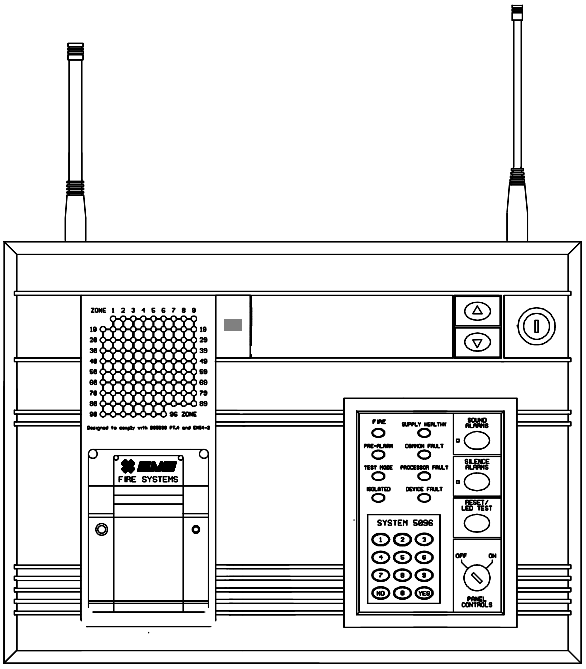
SYSTEM 5000

Recommended Fire Alarm Maintenance Pack



Prepared by:
EMS Ltd.
Technology House
Unit 11 Sea Street
Herne Bay
Kent
CT68JZ

Tel: 01227 369570
Facsimile: 01227 369679
Technical Helpline: 01227 289099
E-Mail: enquiries@emsgroup.co.uk

SYSTEM 5000 FIRE ALARM MAINTENANCE

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1. FIRE ALARM SYSTEM MAINTENANCE

1.1 GENERAL

It is important that fire alarm systems are regularly checked to ensure their continued correct operation. The maintenance of fire alarm systems should be in accordance with British Standard BS5839 : Part 1 : 2002.

The owner or other person having control of the premises should appoint a responsible person to supervise the system. The person should be given sufficient authority to ensure the carrying out of any necessary work to maintain the system in correct operation, the maintenance of the log book, and the servicing recommended.

Procedures should be laid down for dealing with alarm of fire, fault warning or taking part or all of the system out of service. These procedures should be approved by the appropriate fire authority before implementation.

The responsible person should ensure that users of the system are instructed in its proper use. Any members of staff who will be concerned with first aid fire-fighting should be instructed in the correct interpretation of the indications given, and their relationship with the building layout. All management, staff and, in most cases, long term occupants, should be instructed and practised in the proper actions to be taken in the event of a fire.

The responsible person should establish a liaison with those responsible for changes in or maintenance of the building fabric (including redecoration, etc.) to ensure that their work does not cause faults on, or otherwise interfere with the operation of, the fire alarm system. If structural or occupancy changes occur or are planned, then the responsible person should ensure that any necessary changes to the fire alarm system are considered at an early stage.

The responsible person should ensure that a clear space is presented in all directions below every detector, and that all manual call points remain unobstructed and conspicuous.

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1.2 PREVENTION OF FALSE ALARMS DURING ROUTINE TESTING

It is important to ensure that operation during testing does not result in false alarm of fire.
If the fire alarm system is connected to an automatic dialling unit, then transmission should be prevented (for instance by disconnection) before the routine test is carried out, since under normal conditions test calls are not permitted. In certain equipment using automatic dialling, it is possible to prevent transmission of signals by lifting a telephone receiver. Use of this function to inhibit transmission is deprecated, but where used the inhibited state should be indicated by the use of a notice on the control equipment.
If transmission of signals to a remote manned central station is prevented during test, a visual indication of this state should be given at the control equipment. If a link to a remote manned central station is to be used during the test, then it is essential to notify the centre before undertaking the test, unless a recognised test procedure is regularly carried out at an agreed time.
The occupants of the premises should be notified of any test of the system that may result in the sounders being operated.

1.3 PREVENTATIVE DAILY MAINTENANCE

A check should be made every day to ascertain the following:-

a) Ensure that the front panel of the Master controller is indicating a normal condition (i.e. no alarm or faults LED's are lit and the LCD is displaying the correct date and time.

Note: If the panel is not indicating a normal condition, record the condition in the log book and take any necessary action. Refer section 1.1.

b) Check that any fault recorded on the previous day has received attention.

If any connection to the public fire brigade or other remote manned central station is not continuously monitored then it should be tested daily in accordance with the suppliers instructions.
Note : on 1 day each week the daily test will be incorporated in the weekly test.

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1.4 PREVENTATIVE WEEKLY MAINTENANCE

These checks would normally be carried out by a responsible member of the building staff. They should also be carried out by the service engineer after all routine maintenance checks.

WARNING: WARN ALL PERSONNEL THAT THE SOUNDERS ARE ABOUT TO BE TESTED.
TELEPHONE CENTRAL STATION AND INFORM THEM THAT A TEST IS ABOUT TO TAKE PLACE

Note: When reference is made to the controller, the actions should be carried out / checked on all repeater units fitted on the system.

The testing of the fire alarm system should be in accordance with British Standard BS5839 : Part 1 : 2002.

The following checks should be made:-

a) If necessary, clean the front panel of the controller with a suitable cleansing agent. i.e. anti static cleansing wipes.

b) Set one device (a call point) from one zone into alarm, at the call point lift cover insert the test key provided into slot in bottom right hand side of call point, check that the system responds as follows:-
   i) The controller's internal buzzer sounds in a continuous tone.
   ii) The common red "FIRE" symbol on the controller front panel illuminates.
   iii) The appropriate red "FIRE ZONE" LED on the controller front panel flashes.
   iv) The general and zonal sounders operate.
   v) The xenon beacons operate.
   vi) The alphanumeric display gives the location of the alarm.
   vii) The repeater panel indicates the same information as the main control panel.
   viii) The appropriate plant shutdown operates.

c) Record the device used to initiate the test in the site log book. Accept the alarm on the main fire alarm control panel and reset system via appropriate function pushes on control panel.

d) Check the condition of the printout on the printer attached to the system and replace the thermal paper if it is becoming faint.

e) Ensure that the printer has an adequate supply of paper.

f) Contact monitoring control room to confirm test signal was received and signal is now in normal status. Confirm tests are now completed.

Any defect should be recorded in the Fire Alarm System log book and appropriate action taken.

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Sections 1.5 **OR** 1.6 can be used as agreed by the Maintainer and End User. This should be based on a risk assessment, taking into account the type of system installed, the environment in which it operates in and other factors that may affect the long term operation of the system as per BS 5839-1:2002.

1.5 PREVENTATIVE QUARTERLY MAINTENANCE

The following checks should be made:-

a) Perform the weekly checks.
b) Check the entries in the log book and carry out any necessary action.
c) Test all call points and 25% of automatic devices and confirm correct operation as detailed in weekly tests point
d) Check tested device signal strength readings against recorded commissioning levels.
e) Check all fault indicators by simulating a FAULT condition in each zone either:
    i) Removing a detector from its base.
    ii) Disconnecting the local circuit from an ancillary unit's circuit.
f) Visually check the condition of the controller and other ancillary equipment for signs of moisture ingress and other deterioration.
g) Make overall visual examination, test fixings and adjust if necessary. Check voltage (24v/12V), test current draw (ma), test stand-by batteries on load. Check all battery connections. Check all batteries in control panels and ancillary control equipment. The use of an ACT meter is recommended.
h) The alarm functions of the control and indicating equipment should be checked by the operation of a detector or call point in each zone. The operation of the alarm sounders and any link to a remote manned centre should be tested.
i) Ensure that a clear space of at least 750 mm is preserved in all directions below heat and smoke detectors, and that all manual call points remain unobstructed and conspicuous.
j) Check all aerial connections for damage. External aerial connections should be checked to ensure water ingress has not taken place. A resistance of 4K7 should be seen between the centre and outer cores of the coax connector located at the control panel end of the aerial cable.

Any defect should be recorded in the Fire Alarm System log book and appropriate action taken.

Sections 1.5 **OR** 1.6 can be used as agreed by the Maintainer and End User. This should be based on a risk assessment, taking into account the type of system installed, the environment in which it operates in and other factors that may affect the long term operation of the system as per BS 5839-1:2002.

1.6 PREVENTATIVE 6 MONTHLY MAINTENANCE

The following checks should be made:-

a) Perform the weekly checks.
b) Check the entries in the log book and carry out any necessary action.
c) Test all call points and 50% of automatic devices and confirm correct operation as detailed in weekly tests point
d) Check tested device signal strength readings against recorded commissioning levels.
e) Check all fault indicators by simulating a FAULT condition in each zone either:
    i) Removing a detector from its base.
    ii) Disconnecting the local circuit from an ancillary unit's circuit.
f) Visually check the condition of the controller and other ancillary equipment for signs of moisture ingress and other deterioration.
g) Make overall visual examination, test fixings and adjust if necessary. Check voltage (24v/12V), test current draw (ma), test stand-by batteries on load. Check all battery connections. Check all batteries in control panels and ancillary control equipment. The use of an ACT meter is recommended.
h) The alarm functions of the control and indicating equipment should be checked by the operation of a detector or call point in each zone. The operation of the alarm sounders and any link to a remote manned centre should be tested.
i) Ensure that a clear space of at least 750 mm is preserved in all directions below heat and smoke detectors, and that all manual call points remain unobstructed and conspicuous.
j) Check all aerial connections for damage. External aerial connections should be checked to ensure water ingress has not taken place. A resistance of 4K7 should be seen between the centre and outer cores of the coax connector located at the control panel end of the aerial cable.

Any defect should be recorded in the Fire Alarm System log book and appropriate action taken.

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1.7 PREVENTATIVE ANNUAL MAINTENANCE

The following checks should be made:-

a) Carry out all quarterly/ six monthly checks.

b) Visually check the inside and outside of the controller / repeater panel for damage.

c) Check for damage to, and paint on, all detection devices.

d) Check for damage and accumulations of dirt on smoke detectors. DO NOT CLEAN; these units MUST be exchanged and returned to the factory for service. An analogue value of 100 for smoke detectors indicates service required.

e) Check the fixings for the controller and all detectors, sounders and ancillary equipment which forms part of the fire detection system.

f) Check the cable fixings at the controller and each ancillary device for correct connection.

g) All remaining detectors and call points not tested in quarterly/six monthly checks should be tested for correct operation.

Any defect should be recorded in the Fire Alarm System log book and appropriate action taken.

1.8 PREVENTATIVE 2 YEARLY MAINTENANCE

The following checks should be made:-

a) Carry out all annual checks.

b) Internal controller standby batteries require replacement. Inform the responsible person that “x” number of batteries require to be replaced.

c) Section 1.11 refers to recommended replacement battery requirements.

1.9 PREVENTATIVE 3 YEARLY MAINTENANCE

The following checks should be made:-

a) Carry out all annual checks.

b) Inform the responsible person that “x” number of batteries require to be replaced.

c) Replacement batteries are required in the following equipment;

ii) All Radio Voice Sounder Type Variants

d) Section 1.11 refers to recommended replacement battery requirements.

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1.10 PREVENTATIVE 5 YEARLY MAINTENANCE

The following checks should be made:-

a) Carry out all annual checks.

b) Inform the responsible person that "x" number of batteries require to be replaced.

c) Replacement batteries are required in the following equipment;

   i) All Radio Type Device Variants

   ii) All Ancillary Control Equipment

   iii) Controller RAM backup battery

d) Section 1.11 refers to recommended replacement battery requirements.

e) The responsible person should ensure that every 5 years (or more frequently if the building electrical system is tested at shorter intervals) the installation should be tested in accordance with the testing and inspection requirements of current IEE wiring regulations. Any defect should be recorded in the log book and reported to the responsible person, and action should be taken to correct it.

f) On completion of the work, a certificate of testing should be given to the responsible person.

1.11 BATTERY REQUIREMENTS FOR DEVICES AND CONTROL EQUIPMENT

53- Series Equipment	Time Between Replacements	Batteries Required	Battery Part Numbers
System 5000 Control Panels	2 years	2 x 12V 9Ahr	53-5802
Ancillary Support Equipment inc: LAN Modules,Remote Receivers,Transponders etc	5 years	1 x 12V 7Ahr	5-5800
System 5000 Control Panel RAM backup battery	5 years	1 x Lithium coin cell	5-5812
Callpoint	Upto 5 years under normal usage	6 x AAA Alkaline cells	5-5808
Smoke Detector	Upto 5 years under normal usage	6 x AAA Alkaline cells	5-5808
Heat Detector	Upto 5 years under normal usage	6 x AAA Alkaline cells	5-5808
Sounder	Upto 5 years under normal usage	3 x AA Alkaline cells 3 x C Alkaline cells	5-5809 5-5810
Sounder/Strobe	Upto 5 years under normal usage	3 x AA Alkaline cells 5 x C Alkaline cells	5-5809 5-5810
Input/Output Unit	Upto 5 years under normal usage	8 x AA Alkaline cells	5-5809
Combined Smoke/Sounder	Upto 5 years under normal usage	3 x AA Alkaline cells 3 x C Alkaline cells	5-5809 5-5810
Combined Heat/Sounder	Upto 5 years under normal usage	3 x AA Alkaline cells 3 x C Alkaline cells	5-5809 5-5810
Voice Sounder Dome	Upto 3 years under normal usage	3 x AA Alkaline cells 3 x C Alkaline cells	5-5809 5-5810
Combined Smoke/ Voice Sounder	Upto 3 years under normal usage	3 x AA Alkaline cells 3 x C Alkaline cells	5-5809 5-5810
Combined Heat/ Voice Sounder	Upto 3 years under normal usage	3 x AA Alkaline cells 3 x C Alkaline cells	5-5809 5-5810