EDM

DIGITALARM

908 Series

Installation Manual

Electronics Design & Manufacturing

Table of Contents

General Operation Of The System

Introduction

The DIGITALARM 908 is a state of the art microprocessor controlled eight zone (expandable to sixteen zone) ALARM PANEL available in three different models; 908C, 908D and 908L.

An on board regulated power supply powers internal circuitry and outputs are provided to power external equipment and to recharge a standby lead acid battery. An outstanding feature of the DIGITALARM 908 is its ability to shut down all external loads to extend its dialer capabilities and control functions under low battery conditions.

The on board codepad allows manual isolation of burglary zones, arming and disarming, bell test and general control of the system.

DIGITALARM 908C

Dialer #1

The DIGITALARM 908C incorporates three digital dialers that transmit coded messages over the telephone network to a digital receiver located at a central monitoring station.

Dialer #2

is used to report the alarm status for all eight group A zones as well as A.C. fail, Low Battery, Open and Close reports, Test Reports and Restore Signals for any or all of the above.

Dialer #3

is used to report alarm and restore signals for all eight group B zones.

is used to report User Opening Identification information to a low speed Base Station. Closing reports are not transmitted. This is only applicable to Version 6C and 7C software.

Conditions such as low battery, A.C. mains failure, zone input status, Telecom line failure, isolated zones and system status are continually monitored and displayed.

DIGITALARM 908D

The DIGITALARM 908D has an onboard Telephone Dialer which has the facility to ring upto three different telephone numbers that can be entered via the onboard codepad. Upon answering the phone a tone will be heard to indicate that the alarm is sounding. Provision has also been made to identify the calling unit for multiple unit applications.

If at any time you wish to verify whether the system has been in an alarm condition, all you need to do is phone. If the alarm panel does not answer the phone, then there has been no alarm. However if there has been an alarm, the unit will answer the phone with an identifying signal.

DIGITALARM 908L

The DIGITALARM 908L does not have a dialer it is a local alarm panel only. It can be interfaced to Securitel Units via the Digitalarm Sixteen Channel Output Board.

Operation Of The System

When the DIGITALARM 908 is armed it will allow a 60 second exit delay before arming all the sealed zones. If at the end of exit time any zone causes an alarm the following sequence of events occur. The corresponding zone indicator L.E.D. will start to flash irrespective of the zone's condition (ie sealed or unsealed), the sounding devices will sound if the zone is not programmed for silent alarm and the dialer (if programmed) will commence its dialling operations. The sounding devices will continue to operate until the system is disarmed or until automatic shut down after eight minutes. Any further alarms will cause a repeat of the above events. If the zone that caused the alarm is in the sealed state any time after automatic shut down this zone will now be ready to cause another alarm if so programmed (the zone is said to be rearmed).

Entry to the protected area **must** be made through any zone(s) programmed for entry delay. Zones two, three and four have automatic handover but will revert to instant unless an entry is first made through a previous delay zone.

When the system is next disarmed any zones that caused an alarm will be identified by their respective flashing red L.E.D.s. To clear all alarm memory L.E.D.s key in the 4 digit code.

oard Control

0-9	Numerals used for entering codes and phone numbers
TEST	Sounds the bell and speaker outputs for upto two seconds
*	Used to enter the Code Creation mode
ISOL.	Used to enter the Isolate mode. Also used to manually isolate zones.
ENTER	Used to execute any given command
D	Used to enter the Telephone Number Program mode and to display Telephone numbers in a 908D
P	Used to enter a four second pause in telephone numbers in a 908D

Front panel Indicators

Red L.E.D.s for group A zones 1 to 5

- **ILLUMINATED** indicates the zone is unsealed

- **EXTINGUISHED** indicates the zone is sealed

- **FLASHING FAST** at 3 pulses per second indicates a previous alarm

- **FLASHING SLOW** at 1 pulse per second indicates the zone is isolated

Red L.E.D.s for group A zones FIRE, PANIC and 24 HOUR

- **ILLUMINATED** indicates the zone is unsealed

- **EXTINGUISHED** indicates the zone is sealed

- **FLASHING FAST** at 3 pulses per second indicates a previous alarm. Please note because these zones are 24 HOUR, they cannot be isolated. If the FIRE and PANIC zones have been converted to burglary zones six and seven, they then can be isolated.

Red L.E.D.s for group B zones 1 to 8 (optional accessory)

- **ILLUMINATED** indicates the zone is unsealed

- **EXTINGUISHED** indicates the zone is sealed

- **FLASHING FAST** at 3 pulses per second indicates a previous alarm

- **FLASHING SLOW** at 1 pulse per second indicates the zone is isolated

Green A.C. L.E.D.

- **ILLUMINATED** indicates the A.C. power supply is normal

- **EXTINGUISHED** indicates no A.C. power

Yellow ON L.E.D.

- **ILLUMINATED** indicates the system is armed with no previous alarm

- **EXTINGUISHED** indicates the system is disarmed

- **FLASHING** indicates a previous alarm has occurred

Red Seven Segment Display

F   Telecom line failure

U   User Enable/Disable mode

C   Code Creation mode

.   Telecom line is in use

E   Error in the EPROM

Buzzer   Audible signalling device used to indicate the following:

- 1 short beep indicates the pressing of a key on the codepad

- 1 beep every two seconds (only while the system is DISARMED) indicates there is no A.C. mains power

- Continuous beeping indicates the system is in the Walk Test mode

- 1 long beep indicates an operating error

- 5 beeps indicates successful entry into the service mode for an EDMSAT

Bell Test

This feature is used to test the sounding devices. It does not test an EDMSAT (satellite siren). To order a bell test press TEST and the sounding devices will operate for upto two seconds. Pressing the TEST button again will terminate the bell test. If the TEST button is not pressed the second time the bell test will automatically terminate within two seconds.

Walk Test

This feature is used to test the and align detection devices. To access the Walk Test mode isolate any zone that is not to be walk tested as per isolation instructions and then key in the code 9998 ENTER. The buzzer will continually sound and the symbol ' = ' will appear on the seven segment display indicating successful entry to the Walk Test mode. The sounding devices may operate for two seconds immediately and will operate for two seconds on every break or seal. To exit the walk test mode press ENTER.

NOTE   No alarms will be recognized while in the Walk Test mode.

Duress Alarm

This facility allows the system to be DISARMED and at the same time initiate a DURESS signal via the dialer. To initiate this silent alarm key in the 4 digit code followed by a 9 then ENTER. The system will appear to DISARM normally but will in fact activate the dialer (if programmed) causing it to call the pre programmed numbers.

> NOTE   No visual display will be given to indicate that a DURESS alarm has been activated.

Panic Alarm

The PANIC zone can be triggered by pressing ISOL. and ENTER simultaneously from the main or any remote codepad. The red PANIC L.E.D. will flash and whatever functions the PANIC zone has been programmed for will then be performed.

> NOTE   If the FIRE and PANIC zones have been con-verted to burglary zones six & seven, all PANIC signals will be directed to the 24 HOUR zone.

Summary Of Operating Instructions

1.   Ensure the green A.C. L.E.D. is ILLUMINATED and the sirens are not sounding.

2.   Ensure that zones required to be ARMED are sealed (zone L.E.D. is extinguished). Any unsealed zone will isolate itself at the end of the 60 second exit time (FORCED ARMING). Should any unsealed zone become sealed after this time it wil be immediately ARMED.

3.   Manually isolate any zones not required for ARMING. Key in the 4 digit code foloowed by ENTER and observe that the yellow ON L.E.D. ILLUMINATES. Exit via any burglary zone within one minute remembering to seal the exit path to allow arming of those zones.

4.   Enter through zone one, then other zones two, three and four (if necessary) in that order.

Key in the 4 digit code followed by ENTER and observe that the yellow ON L.E.D. is EXTINGUISHED.

NOTE   Any zone L.E.D.s that are flashing fast at 3 pulses per second indicates there has been an alarm on that zone.

Alarm memories may be cleared at any time by keying in the 4 digit code followed by ENTER. If the system becomes ARMED key in the 4 digit code followed by ENTER again.

Alarms on either FIRE, PANIC or 24 HOUR zones can be cancelled by keying in the 4 digit code followed by ENTER. If the system becomes ARMED key in the 4 digit code followed by ENTER again.

Accessories

The following accessories are available for the DIGITALARM 908 Series of Alarm Panels.

Remote Codepads

CP-1 and 909

The CP-1 and 909 remote codepads allow arming and disarming of the system, isolation of zones and panic and duress facilities. L.E.D. indicators are provided to display system status (ie armed or disarmed), alarm memory and zone(s) sealed and unsealed as follows.

Green L.E.D.

- **ILLUMINATED** indicates the system is DIS- ARMED with all zones sealed

- **FLASHING** indicates the system is DISARMED with one or more zones unsealed

Red L.E.D.

- **ILLUMINATED** indicates the system is ARMED with no previous alarm

- **FLASHING** indicates the system is ARMED with a previous alarm

Further instructions on the operation and installation of the remote codepad(s) are supplied with the units.

CP-2

The CP-2 is a fully annunciated remote codepad that allows arming and disarming of the system, isolation of zones and panic and duress facilities. L.E.D. indicators are provided to display system status (ie armed or disarmed), alarm memory and individual zone(s) status ie sealed or unsealed.

Red AWAY L.E.D.

- **ILLUMINATED** indicates the system is ARMED with no previous alarm

- **FLASHING** indicates the system is ARMED with a previous alarm

Yellow HOME L.E.D.

- **ILLUMINATED** indicates the system is ARMED in the HOME MODE

- **EXTINGUISHED** indicates the HOME MODE is not activated

Green MAINS L.E.D.

- **ILLUMINATED** indicates the A.C. power supply is normal

- **EXTINGUISHED** indicates no A.C. power

Red FAULT L.E.D.

- **ILLUMINATED** indicates a previous Telecom line failure or a previous failure to communicate to the base station or an error in the EPROM

- **EXTINGUISHED** indicates the system is normal

Red L.E.D.s
(for group A zones 1 to 8 and group B zones 1 to 8)

- **ILLUMINATED** indicates the zone is unsealed

- **EXTINGUISHED** indicates the zone is sealed

- **FLASHING FAST** at 3 pulses per second indicates a previous alarm

- **FLASHING SLOW** at 1 pulse per second indicates the zone is isolated

Further instructions on the operation and installation of the remote codepad(s) are supplied with the units.

Eight Zone Expansion Board

This board converts the standard DIGITALARM 908 control panel from an eight zone to a sixteen zone control panel.

EDMSAT

The EDM satellite siren (EDMSAT) has been designed with the latest technology to enhance the level of security protéction provided by a local or monitored security system. The EDMSAT is a totally self contained unit incorporating a high powered siren, weatherproof strobe, and a sealed lead acid back up battery.

Remote Control Equipment

The DIGITALARM 908 series of alarm panels can be ARMED and DISARMED via remote control radio equipment. This equipment can also be used for remote PANIC alarms or remote MEDICAL alarms.

The DIGITALARM hand held PHONE CONTROLLER can be used to ARM the control panel via the telephone line (if this feature has been programmed) but is more commonly used to terminate the dialing sequence of a DIGITALARM 908D.

Sixteen Channel Output Board

This unit is compatible with DIGITALARM 908L only. It is commonly used as an interface for Securitel equipment.

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Arming And Disarming The System In The Away Mode (at the control panel)

Arming

To ARM the system in the AWAY mode key in the 4 digit code followed by ENTER. The yellow ON L.E.D. will ILLUMINATE, two beeps will be heard and the exit timer will start. Any unsealed zone will isolate itself at the end of the 60 second exit time (FORCED ARMING). Should any unsealed zone become sealed after this time it will be immediately ARMED.

If the yellow ON L.E.D. does not ILLUMINATE and a long beep is heard, this means that FORCED ARMING is not permitted and any unsealed zones will need to be sealed or manually isolated before ARMING of the system will be permitted.

Disarming

To DISARM the system key in the 4 digit code followed by ENTER. The yellow ON L.E.D. will EXTINGUISH and two beeps will be heard. In the case where an alarm has been caused by the F (FIRE), P (PANIC) or 24 HOUR zone(s) while the system is in the DISARMED state, key in the 4 digit code followed by ENTER to cancel these alarms. If the system becomes ARMED, key in the 4 digit code followed by ENTER again.

Arming And Disarming The System In The Away Mode (at a CP-1 or 909 remote codepad)

Arming

To ARM the system in the AWAY mode key in the 4 digit code followed by ENTER. The red L.E.D. will ILLUMINATE and the exit timer will start. Any unsealed zone will isolate itself at the end of the 60 second exit time (FORCED ARMING). Should any unsealed zone become sealed after this time it will be immediately ARMED.

If the red L.E.D. does not ILLUMINATE and a long beep is heard, this means that FORCED ARMING is not permitted and any unsealed zones will need to be sealed or manually isolated before ARMING of the system will be permitted.

Disarming	To DISARM the system key in the 4 digit code followed by ENTER. The red L.E.D. will EXTINGUISH. In the case where an alarm has been caused by the F (FIRE), P (PANIC) or 24 HOUR zone(s) while the system is in the DISARMED state, key in the 4 digit code followed by ENTER to cancel these alarms. If the system becomes ARMED, key in the 4 digit code followed by ENTER again.

Arming And Disarming The System In The Away Mode (at a CP-2 remote codepad)

Arming	To ARM the system in the AWAY mode key in the 4 digit code followed by ENTER. The red AWAY L.E.D. will ILLUMINATE and the exit timer will start. Any unsealed zone will isolate itself at the end of the 60 second exit time (FORCED ARMING). Should any unsealed zone become sealed after this time it will be immediately ARMED.

If the red AWAY L.E.D. does not ILLUMINATE and a long beep is heard, this means that FORCED ARMING is not permitted and any unsealed zones will need to be sealed or manually isolated before ARMING of the system will be permitted. |
| *Disarming* | To DISARM the system key in the 4 digit code followed by ENTER. The red AWAY L.E.D. will EXTINGUISH. In the case where an alarm has been caused by the F (FIRE), P (PANIC) or 24 HOUR zone(s) while the system is in the DISARMED state, key in the 4 digit code followed by ENTER to cancel these alarms. If the system becomes ARMED, key in the 4 digit code followed by ENTER again. |

Arming And Disarming The System In The Home Mode (at the control panel)

Arming

To ARM the system in the HOME mode key in the 4 digit code followed by ISOL. The yellow ON L.E.D. will ILLUMINATE and two beeps will be heard. Zones programmed for Home Mode will be automatically isolated and the exit timer will start. Any unsealed zone will also isolate itself at the end of the 60 second exit time (FORCED ARMING). Should any unsealed zone become sealed after this time it will be immediately ARMED.

Disarming

To DISARM the system key in the 4 digit code followed by ENTER. The yellow ON L.E.D. will EXTINGUISH and two beeps will be heard. In the case where an alarm has been caused by the F (FIRE), P (PANIC) or 24 HOUR zone(s) while the system is in the DISARMED state, key in the 4 digit code followed by ENTER to cancel these alarms. If the system becomes ARMED, key in the 4 digit code followed by ENTER again.

Arming And Disarming The System In The Home Mode (at a CP-1 or 909 remote codepad)

Arming

To ARM the system in the HOME mode key in the 4 digit code followed by ISOL. Both red and green L.E.D.s will ILLUMINATE. Zones programmed for HOME mode will be automatically isolated and the exit timer will start. Any unsealed zone will also isolate itself at the end of the 60 second exit time (FORCED ARMING). Should any unsealed zone become sealed after this time it will be immediately ARMED.

Disarming

To DISARM the system key in the 4 digit code followed by ENTER. The red L.E.D. will EXTINGUISH. In the case where an alarm has been caused by the F (FIRE), P (PANIC) or 24 HOUR zone(s) while the system is in the DISARMED state, key in the 4 digit code followed by ENTER to cancel these alarms. If the system becomes ARMED, key in the 4 digit code followed by ENTER again.

Arming And Disarming The System In The Home Mode
(at a CP-2 remote codepad)

Arming

To ARM the system in the HOME mode key in the 4 digit code followed by ISOL. The yellow HOME L.E.D. will ILLUMINATE. Zones programmed for Home Mode will be automatically isolated and the exit timer will start. Any unsealed zone will also isolate itself at the end of the 60 second exit time (FORCED ARMING). Should any unsealed zone become sealed after this time it will be immediately ARMED.

Disarming

To DISARM the system key in the 4 digit code followed by ENTER. The yellow HOME L.E.D. will EXTINGUISH. In the case where an alarm has been caused by the F (FIRE), P (PANIC) or 24 HOUR zone(s) while the system is in the DISARMED state, key in the 4 digit code followed by ENTER to cancel these alarms. If the system becomes ARMED, key in the 4 digit code followed by ENTER again.

To program zones required for HOME mode see PROGRAMMING ZONES FOR HOME MODE.

Isolating One Or More Burglary Zones
(at the control panel)

When a zone is isolated access is ALLOWED into that zone.

Before accessing the ISOLATE mode, ensure the following conditions are met.

1. There are no alarm memory L.E.D.s flashing (fast at 3 pulses per second). If this is not the case, key in the 4 digit code followed by ENTER until no L.E.D.s are flashing.

2. The system is in the DISARMED state, ie the yellow ON L.E.D. is EXTINGUISHED. If this is not the case, key in the 4 digit code followed by ENTER.

3.   The dialer is off line, ie the red ON LINE L.E.D. on the seven segment display is EXTINGUISHED. If this is not the case, you may have to wait a moment.

If these conditions are not met, access to the ISOLATE mode will be unsuccessful.

Press ISOL. two beeps will be heard, all previous isolations will be cleared and a zero will appear on the seven segment display indicating successful entry to the Isolate mode.

Key in the numerals that correspond to the zones you wish to isolate. If a group B zone 1 to 8 needs to be isolated key in a zero before the particular zone number. Pressing the same numerals again will clear the isolation. As each zone is isolated two beeps will be heard and the corresponding zone L.E.D. will begin to flash slowly (1 pulse per second). The seven segment display will show the current zone that is being isolated.

Ensure the correct zone L.E.D.s are flashing and then press ENTER to exit the ISOLATE mode and return the system to normal.

The L.E.D.s of the isolated zones will continue to flash until the system is next DISARMED or the ISOLATE mode is re-entered.

Isolating One Or More Burglary Zones (at a CP-1 or 909 remote codepad)

When a zone is isolated access is ALLOWED into that zone.

Before accessing the ISOLATE mode ensure the following conditions are met.

1.   There are no alarm memory L.E.D.s flashing (fast at 3 pulses per second) at the control panel. This observation can only be carried out at the control panel. The following steps are carried out at the remote codepad.

2.   The system is in the DISARMED state, ie the red L.E.D. is EXTINGUISHED. If this is not the case key in the 4 digit code followed by ENTER until this condition is met. The green L.E.D., whether it is flashing or illuminated constantly will have no effect on the Isolate mode.

Press ISOL. followed by the numerals that correspond to the zones you wish to isolate. If a group B zone 1 to 8 needs to be isolated, key in a zero before the particular zone number. Pressing the same numerals again will clear the isolation. Press ENTER to exit the Isolate mode and return to normal. The next time the system is ARMED, entry into the ISOLATED zones will not cause an alarm condition.

Isolating One Or More Burglary Zones (at a CP-2 remote codepad)

When a zone is isolated access is ALLOWED into that zone.

Before accessing the ISOLATE mode, ensure the following conditions are met.

1.   There are no alarm memory L.E.D.s flashing (fast at 3 pulses per second). If this is not the case, key in the 4 digit code followed by ENTER until no L.E.D.s are flashing.

2.   The system is in the DISARMED state, ie the red AWAY L.E.D. is EXTINGUISHED. If this is not the case, key in the 4 digit code followed by ENTER.

If these conditions are not met, access to the ISOLATE mode will be unsuccessful.

Press ISOL. followed by the numerals that correspond to the zones you wish to isolate. If a group B zone 1 to 8 needs to be isolated, key in a zero before the particular zone number. Pressing the same numerals again will clear the isolation. As each zone is isolated the corresponding zone L.E.D. will begin to flash slowly (1 pulse per second). Ensure the correct zone L.E.D.s are flashing and then press ENTER to exit the ISOLATE

mode and return to normal. The next time the system is ARMED, entry into the ISOLATED zones will not cause an alarm condition.

The L.E.D.s of the isolated zones will continue to flash until the system is next DISARMED or the ISOLATE mode is re-entered.

Programming Zones For Home Mode

This function can only be carried out from the control panel, not from any of the remote codepads.

The following precedure is used to create a mode that will automatically isolate one or more zones when the system is ARMED. When a zone is isolated access is ALLOWED into that zone.

NOTE   Zones programmed for HOME mode will remain valid as long as the system's supply voltage is above six volts.

Before accessing the HOME PROGRAM mode, ensure the following conditions are met.

1.   There are no alarm memory L.E.D.s flashing (fast at 3 pulses per second). If this is not the case, key in the 4 digit code followed by ENTER until no L.E.D.s are flashing.

2.   The system is in the DISARMED state, ie the yellow ON L.E.D. is EXTINGUISHED. If this is not the case, key in the 4 digit code followed by ENTER.

3.   The dialer is off line, ie the red ON LINE L.E.D. on the seven segment display is EXTINGUISHED. If this is not the case, you may have to wait a moment.

If these conditions are not met, access to the HOME PROGRAM mode will be unsuccessful.

To access the HOME PROGRAMMING mode key in the 4 digit MASTER code followed by 0 then ENTER. Two beeps will be heard and a zero will appear on the seven segment display indicating successful entry into the HOME PROGRAMMING mode.

Key in the zone numbers you wish to be automatically isolated when in the HOME mode. If a group B zone 1 to 8 needs to be isolated, key in a zero before the particular zone number. Pressing the same numerals again will clear the isolation. As each zone is isolated two beeps will be heard and the corresponding zone L.E.D. will begin to flash slowly (1 pulse per second). The seven segment display will show the current zone that is being isolated.

Ensure the correct zone L.E.D.s are flashing and then press ENTER to exit the HOME PROGRAM mode and return the system to normal.

Creating An Additional 4 Digit Code

This function can only be carried out from the control panel not from any of the remote codepads.

The following procedure is used to create an additional four digit code. The new code will arm and disarm the system in the same manner as the MASTER code. The code can be altered at any time or as many times as required by the user.

> NOTE   The additional code does not replace or disable the MASTER code and will stay valid as long as the system's supply voltage is above six volts.

Before accessing the CODE CREATION mode first ensure the following conditions are met.

1.   No alarm memory L.E.D.s are flashing (fast at 3 pulses per second). If this is not the case, key in the 4 digit code followed by ENTER until no L.E.D.s are flashing.

2. The system is in the DISARMED state, ie the yellow ON L.E.D. is EXTINGUISHED. If this is not the case, key in the 4 digit code followed by ENTER.

3. The dialer is off line, ie the red ON LINE L.E D. on the seven segment display is EXTINGUISHED. If this is not the case, you may have to wait a moment.

If these conditions are not met, access to the CODE CREATION mode will be unsuccessful.

To access the CODE CREATION mode key in the 4 digit MASTER code followed by * then ENTER. Two beeps will be heard and a 'C' will appear on the seven segment display indicating successful entry into the code creation mode.

If the yellow ON L.E.D. ILLUMINATES to indicate an ARMED state this is because the 4 digit code being used is not the MASTER code.

If a 'U' appears, the feature of creating an additional 4 digit code is not available. See ENABLING AND DISABLING USER CODES.

If a 'C' does not appear commence the procedure again.

When the 'C' appears on the seven segment display key in the four digits required for the additional code followed by ENTER. The 'C' will disappear from the display and two beeps will be heard. If an error is made while keying in the code press ENTER and commence the procedure again.

The new code has now been created and may be used to ARM and DISARM the system.

NOTE If a key is not pressed for fifteen seconds this mode will be automatically exited.

Enabling And Disabling User Codes

This function can only be carried out from the control panel not from any of the remote codepads.

The following precedure is used to stop or DISABLE a user from ARMING and DISARMING the system. Any user from two to nine can be enabled and disabled as often as required. Users ten to fifteen (which are only available in EXPANDED version EPROMS) CANNOT be disabled.

Any user code starting with the numbers 00 ONLY ARM the system. DISARMING of the system is not permitted with this code.

Before accessing the user ENABLE/DISABLE mode ensure the following conditions are met.

1.   .   There are no alarm memory L.E.D.s flashing (fast at 3 pulses per second). If this is not the case, key in the 4 digit code followed by ENTER until no L.E.D.s are flashing.

2.   The system is in the DISARMED state, ie the yellow ON L.E.D. is EXTINGUISHED. If this is not the case, key in the 4 digit code followed by ENTER.

3.   The dialer is off line, ie the red ON LINE L.E.D. on the seven segment display is EXTINGUISHED. If this is not the case, you may have to wait a moment.

If these conditions are not met, access to the user ENABLE/DIS-ABLE mode will be unsuccessful.

To access the user ENABLE/DISABLE mode key in the 4 digit MASTER code followed by * then ENTER. Two beeps will be heard and a 'U' will appear on the seven segment display indicating successful entry into the user ENABLE/DISABLE mode.

If the yellow ON L.E.D. ILLUMINATES to indicate an ARMED state this is because the 4 digit code being used is not the MASTER code. Key in the 4 digit code followed by ENTER to DISARM the system.

If a 'C' appears, the feature of enabling and disabling user codes is not available. See CREATING AN ADDITIONAL 4 DIGIT CODE.

If a 'U' does not appear commence the procedure again.

Now press any numeral two to nine corresponding to the user in question.

1.   A **constant** numeral display means the User is **enabled** ie permitted to ARM and DISARM the system.

2.   A **flashing** numeral display means the user is **disabled** ie not permitted to ARM and DISARM the system.

To enable or disable the user press * and the display will change from a flashing display to constant display or visa versa.

NOTE   If a key is not pressed for fifteen seconds this mode will be automatically exited.

Dialer Operation (908C)

When there is information to report to the central monitoring station the DIGITALARM 908C will seize the telephone line, then dial the appropriate telephone number.

1.   The dialer will seize the telephone line (disconnecting the telephone) and force a two second hang up to insure a disconnection, if an outgoing call is being made.

2.   The red ON LINE L.E.D. will be illuminated for the entire time the dialer is in operation.

3.   After following a patented procedure to disconnect any incoming calls which might interfere with dialling (true anti jam), the dialer will reconnect to the telephone line and commence its dialing sequence.

4.   When connection is made with the central monitoring station a handshake tone is sent over the telephone line by the receiver to the DIGITALARM 908C. This handshake confirms, to the DIGITALARM 908C, that connection has been completed to the receiver. If a handshake tone is not received within thirty seconds the DIGITALARM 908C will release the telephone line and attempt another connection. If a HOLD tone is received within the first thirty seconds then the DIGITALARM 908C will extend its wait for a valid handshake to one minute. If a valid handshake is not received then the DIGITALARM 908C will release the line and attempt another connection. When there has been three consecutive failures to the first number the second number will be attempted three times. This will give a total of six attempts to reach the central monitoring station. If still unsuccessful an eight and a half minute sleep period will be entered and then another final six attempts will be made. Upon receipt of the handshake tone the DIGITALARM 908C will com-

mence transmitting its messages. The type of handshake tone that is sent by the central monitoring station will determine the format in which the DIGITALARM 908C will send its messages. The format type will be indicated on the display as follows.

A = low speed at 10pps (Ademco or Silent Knight).
L = low speed at 20pps (Sescoa).
H = high speed or extended high speed.

> NOTE These symbols will only be displayed if a handshake has been received from the central monitoring station. They do not indicate that a successful transmission has taken place.

Messages will be sent up to a total of four times while the receiver compares each message with the one before. As soon as the receiver detects two successive identical messages, it considers the transmission valid and sends a KISS OFF tone to the DIGITALARM 908C.

Telephone Number Programming (908D)

This function can only be carried out from the control panel not from any of the remote codepads.

The following precedure is used to create one, two or three phone numbers that will be called in the event of an alarm condition.

> NOTE Telephone numbers that have been programmed will remain valid as long as the system's supply voltage is above six volts.

Before accessing the TELEPHONE NUMBER PROGRAMMING mode ensure the following conditions are met.

1. There are no alarm memory L.E.D.s flashing (fast at 3 pulses per second). If this is not the case, key in the 4 digit code followed by ENTER until no L.E.D.s are flashing.

2. The system is in the DISARMED state, ie the yellow ON L.E.D. is EXTINGUISHED. If this is not the case, key in the 4 digit code followed by ENTER.

3. The dialer is off line, ie the red ON LINE L.E.D. on the seven segment display is EXTINGUISHED. If this is not the case, you may have to wait a moment.

If these conditions are not met, access to the TELEPHONE NUMBER PROGRAM mode will be unsuccessful.

To display the currently programmed telephone numbers press D.

The display will show the numbers one digit at a time.

As each digit is displayed it will be accompanied by a short beep and any further pressing of the D button will cause a repeat display of the current telephone number(s).

To access the TELEPHONE NUMBER PROGRAMMING mode key in the 4 digit MASTER code followed by D then ENTER. Two beeps will be heard and the seven segment display will show an illuminated center bar to indicate successful entry into the TELEPHONE NUMBER PROGRAMMING mode.

Key in the new number(s) starting with the first digit.

As each digit is entered it will be displayed.

To enter a second telephone number press the * at the end of the first telephone number. Now key in the second telephone number in the same manner as the first.

To enter a third telephone number press the * at the end of the second telephone number. Now key in the third telephone number in the same manner as the first.

When all numbers have been keyed in press ENTER to exit this mode.

NOTE   THE DISPLAY SYMBOL FOR * is ≡

The button marked P is used to program a pause of four seconds. This can be used to obtain a line through a P.A.B.X or P.M.B.X switchboard by first entering the access code (usually 0) followed by a pause, then the remaining digits to be dialled, which can total twenty seven in all, including pauses.

Disabling The Dialer

To disable the dialer so that it will make no outgoing calls press * as the first telephone number. The dialer will now be disabled and no outgoing calls will be made. To bring the dialer back to operation enter any valid telephone number(s).

Testing The Dialer

A complete on line test (without creating any noise) can be initiated by using the keyboard duress facility.

1.   Key in the 4 digit code followed by ENTER to ARM the system

2.   Key in the 4 digit code followed 9 then ENTER This will initiate a silent alarm causing the dialer to be activated. The dialer will run through the pre programmed number(s) and then shut down thus testing the operation of the dialer.

Dialer Operation (908D)

When the dialer is activated by an alarm condition the following sequence of events will occur.

If the 4 digit code is entered at any time while the dialer is in operation the dialling will be terminated.

1.   The dialer will seize the telephone line (disconnecting the telephone) and force a two second hang up to ensure a disconnection, if an outgoing call was being made.

2.   The red ON LINE L.E.D. on the seven segment display will be ILLUMINATED for the entire time the dialer is in operation.

3.   After waiting long enough to disconnect any incoming calls which might interfere with dialling (anti jam), the dialer will reconnect to the telephone line and commence its dialling sequence.

4.   At the completion of the dialling sequence to the pre programmed number(s), the line is tested for engaged tone and if sensed then the line is released and the next number dialled. After a successful call the subscriber's phone will ring and upon answering the phone an identifying signal will be heard. The identifying signal is made up of a siren noise followed by a number of tone bursts and is repeated for a period of two minutes then the line is released. The standard unit is programmed with one tone burst, however units can be programmed with a number of tone bursts to identify the calling unit in multiple unit applications.

5.   The dialer will dial out a maximum of six attempts and stop after six attempts or three successful calls which ever comes first. The three successful calls can be made up of three calls to one number or one call to each of three numbers or spread over two numbers depending on whether you have one,two or three telephone numbers stored.

6.   Using the E.D.M. hand held PHONE CONTROLLER the above dialling sequence can be terminated by activating the PHONE CONTROLLER next to the telephone mouth piece while receiving the call. No further calls will be made for this alarm. If another alarm is triggered the dialling sequence will be initiated once again.

Verification of an alarm condition can be obtained by calling the designated phone number that the panel is connected to and noting the tones heard. These tones will only be heard if an alarm condition has occurred while the system was in the ARMED state. The DIGITALARM 908D will answer the incoming call approximately seven seconds after it has been detected.

1 Beep = FIRE zone (ZONE 6)
2 Beeps = PANIC zone (ZONE 7)
3 Beeps = 24 HOUR zone (ZONE 8)
4 Beeps = BURGLARY zone (ZONES 1 to 5)

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Specifications

Connections

RK	This input is used for ARMING and DISARMING the system via an EDM Hand Held Remote Control Unit or an EDM KS-1 spring return keyswitch. Depending on the Version EPROM used in the system, the bell and speaker outputs will sound twice to indicate an ARMED state and once to indicate a DISARMED state.
KS	This input allows ONE ONLY on/off keyswitch to be used for ARMING and DISARMING the system. A limitation of this input is that it DOES NOT function on an EIGHT ZONE DIGITALARM 908L. It will however function on a SIXTEEN ZONE 908L and any other model 908.
ST2	Zero volt output used to operate the green L.E.D. on a CP-1 or 909 remote codepad.
0V	Zero volt output used to power all versions of remote codepads.
ST1	Zero volt output used to operate the red L.E.D. on a CP-1 or 909 remote codepad.
+12V	Twelve volt output used to power all versions of remote codepads.
SG	Signal input from all versions of remote codepads.
BELL	Is normaly connected to the negative terminal of screamers or piezo sirens. It can be used to power any 12 volt dc device while the system is in an ALARM condition. This output will reset at the end of siren run time. It can be changed to a speaker output by moving link L1 on the board from B to S . system no ALARM = high (+12Vdc) source 10ma MAX system in ALARM = low (0Vdc) sink 1 AMP MAX *Zones ~ Common +*

SPK	Is normaly connected to the negative terminal of horn speakers. It is capable of driving 4 x 8 ohm speakers only while the standby battery is connected. This output will reset at the end of siren run time. The average current draw per speaker is approximately 290 ma.
	system no ALARM = open circuit system in ALARM = A.C. Audible
COM	This is a common +12Vdc output to be used with the bell and speaker outputs only.
AUX1	Can be used as the systems ARMED/DISARMED idication or can be used for P.I.R. memory control
	system ARMED = high (+12Vdc) source 10ma MAX system DISARMED = low (0Vdc) sink 200ma MAX
AUX2	Is normaly connected to the negative terminal of strobe lights. This output resets the next time the system is ARMED or DISARMED.
	system no ALARM = high (+12Vdc) source 10ma MAX system in ALARM = low (0Vdc) sink 1 AMP MAX
+12V	This is the common 12 volt dc output for AUX 1, 2, 3 and 4
AUX3	Is normally connected to the negative terminal of devices used to indicate entry time.
	system ENTRY = pulsed low (0Vdc) sink 1 AMP MAX
AUX4	Can be used to indicate a telephone line failure (default setting) on a 908C or a 908D or can be used to indicate a failure to communicate to the base station on a 908C (see location 61 bit 3) or can be used as a day alarm entry warning for zone one (default setting) on a 908L or can be used as an A.C. fail indicator on a 908L (see location 62 bit 7)
	This output can only be programed to perform ONE of the above features at a time.

Power Down Mode

This mode will only be entered if there is no primary power and the backup battery voltage is below 10.5 volts.

When in POWER DOWN MODE all zone L.E.D.s (except the yellow ON L.E.D.) will be extinguished, and the accessories output power will be disconnected. The system will wait for a period of thirty seconds, then it will look at all the zones to determine the ones not sealed. All the sealed zones will then be rearmed and violated zones isolated. This allows electromechanical circuits to continue to function and if any rearmed zone is then violated the system will store the alarm and initiate any dialling functions that have been programmed. When the A.C. supply is restored the system will wait thirty seconds for the detectors to power up and stabilize, before reactivating their respective zones and all L.E.D. indicators (ie back to normal conditions).

System Programming

All system operating information is stored in a read only memory (EPROM) for the highest degree of system reliability. This type of memory has been chosen in preference to random access memory (RAM) because of the ease with which RAM memory can be corrupted eg prolonged loss of power, electrical interference and faulty system programme execution etc. These faults can be encountered due to the different environments in which the system may be used.

To program the read only memory (EPROM) an external portable programmer is used or the EPROM can be programmed to your requirements.

For more details on EPROM programming see the DIGITALARM 900 PROGAMMER MANUAL.

Dip Switch Programming

Switch 1

Switch 1 ON (for a 908C and 908D)
disables the key switch input

Switch 1 OFF (for a 908C and 908D)
enables the key switch input

Switch 1 ON (for a 908L)
inverts the zone outputs 1 to 8 on a sixteen channel output board

Switch 1 OFF (for a 908L)
the zone outputs 1 to 8 on a sixteen channel output board remain as standard **high going low** ie twelve volts going to zero volts.

Switch 2

Switch 2 ON
FIRE and PANIC zones become burglary **zones 6 and 7**

Switch 2 OFF
FIRE and PANIC zones remain as 24 **hour zones**

Switches 3 & 4

Switches **3 & 4** are used for setting the **entry delay** time

Timer No.1 is as follows

sw 3	sw 4	entry time
OFF	OFF	10 SEC
ON	OFF	25 SEC
OFF	ON	40 SEC
ON	ON	55 SEC

Timer No.2 is as follows

sw 3	sw 4	entry time
OFF	OFF	02 SEC
ON	OFF	15 SEC
OFF	ON	20 SEC
ON	ON	90 SEC

NOTE   Only one entry time table can be operational. The default setting is for table number one. If table number two is required instead, program location 62 bit No. 3.

DIGITALARM 908 EPROM Versions

The following is a table of the different software Versions that are available for the DIGITALARM 908. The software version can be found by looking at the label on the Eprom supplied.

Version	Description
3L	Standard eight zone without dialer
5L	Standard sixteen zone without dialer
3D	Standard eight zone for Domestic dialer
5D	Standard sixteen zone for Domestic dialer
3C	Standard eight zone for back to base dialer
5C	Standard sixteen zone for back to base dialer
6C	Eight zone back to base with nine user codes
7C	Sixteen zone back to base with nine user codes
Local	Eight or sixteen zone without dialer
Domestic	Eight or sixteen zone for Domestic dialer
Central	Eight or sixteen zone for back to base dialer
Expanded	Eight or sixteen zone back to base with fifteen user codes
Partitioned	Eight zone back to base for multi tenant usage

Installation Notes

With the unit mounted in the desired location connect all circuit wiring except A.C. input and do NOT connect the battery or noise makers at this stage. When connecting cables take particular care NOT to drop any wire ends, metal screws or shavings onto the printed circuit board. Install the programmed EPROM (if not already inserted) in its socket with the orientation arrow pointing away from the terminal block.

NOTE IMPORTANT

The EPROM must not be inserted with any power connected to the system ie NO battery or A.C. power. Connect and then turn on the A.C. power. The system will power up in the ARMED state and depending on the condition of the inputs may go into alarm. Key in the 4 digit code followed by ENTER to DISARM the system. Connect the leads to the battery terminals. Do not reverse the battery leads as the battery fuse will blow and must be replaced. Connect the noise makers, Telecom plug and verify the operation of the system. If the system does not appear to operate correctly ensure the fuses are not blown.

REMEMBER

Any alarms will cause the dialer to operate and if this is not desired temporarily disconnect the Telecom plug.

Technical Data

Current consumption	30 mA
Dimensions	230 mm x 327 mm x 110 mm
Weight	3.1 kg
Telecom Permit No.	C85/3/6
Patent Number	PG6785

Glossary Of Terms

A.C.	Alternating Current. The power source for the DIGITALARM 908 supplied from a plug pack.
ALARM CONDITION	Is when the security system is ARMED and a detection device is violated.
ARMED	When the system is in a state ready to accept alarms.
BASE STATION	Is a secure location where a DIGITAL RECEIVER monitors numerous alarm systems and deciphers alarm transmission reports to a legible media to which an operator can advise the appropriate authorities to take immediate action. Also known as Central Monitoring Station.
BELL TEST	Is used for checking the operation of all sirens connected to the system.
CENTRAL MONITORING STATION	see BASE STATION.
CODE	4 digit number used to ARM and DISARM the system.
CODEPAD	Is a digital touch pad where the CODE and other system functions are performed.
CP-1	Remote codepad for DIGITALARM series of control panels.
CP-2	Fully annunciated remote codepad for DIGITALARM 908 panels
CURRENT DRAW	Is the amount of power required to make the unit operate.
DAY ALARM	Is available in DIGITALARM 908L only, zone 1 gives a pulsed output on auxiliary 4 to run a buzzer. Mainly used in shop fronts etc. This feature only functions when the system is in the DISARMED state.
D.C.	Direct Current. The power source supplied from a battery.

DETECTORS	Devices connected to the alarm system used to cause an alarm condition. Some common forms of detection devices are: passive infrared, smoke, photo-electric, reed switches, vibration sensors.
DIALER	Device incorporated into the design of the DIGITALARM 908 used for communicating to a BASE STATION.
DIGITAL RECEIVER	see BASE STATION.
DISARMED	When the system is in a state that will not accept alarms.
DURESS ALARM	This is a type of alarm raised by the system user to indicate to the BASE STATION that there is a hold-up situation at the premises. This is generated when DISARMING the system by keying in the 4 digit code followed by a 9 then ENTER.
ENTER	Is used to execute any given command.
ENTRY TIME / ENTRY DELAY	The time allowed for entering an ARMED premises, to DISARM the system before an alarm condition occurs.
ENTRY WARNING	For the duration of ENTRY TIME a buzzer can be used as a reminder to DISARM the system. All REMOTE CODEPADS come standard with this feature.
E.O.L.	Abbreviation for End Of Line.
EPROM	Contains all of the software required to run the security system. This software can be programmed to suit many specialized applications.
EXIT TIME EXIT DELAY	The time allowed (preset time of 60 seconds) to leave the premises after the system has been ARMED.
EXTERNAL EQUIPMENT	Any device connected to the system such as detectors, remote codepads and sirens.
FAILURE TO COMMUNICATE	An output provided for when the DIGITALARM 908 is unable to communicate to the BASE STATION.

FIRE ZONE	Generally all smoke detectors are wired back to this zone so the user or the BASE STATION can differentiate between BURGLARY and FIRE alarms.
FORMATS	This refers to the type of transmission reports that are sent to the BASE STATION.
GROUP A ZONES	The zones on the DIGITALARM 908 that are from 1 - 5 and FIRE, PANIC and 24 HOUR.
GROUP B ZONES	These zones are only functional when an optional Eight Zone Expansion Board has been fitted.
HAND OVER DELAY	When the DIGITALARM 908 is ARMED and zone 1 is violated the entry delay starts timing. If zone two is then violated the entry delay time is HANDED OVER to zone two and so on through zones three and four. This is known as SEQUENTIAL hand over delay. Zone one will not handover to zone three or four.
HAND HELD REMOTE CONTROL	Is used to ARM and DISARM the system or raise a PANIC ALARM via radio transmission of digitally encoded messages.
HAND SHAKE TONE	Is a tone transmitted over the telephone line from the BASE STATION to the DIGITALARM 908 after the control panel has called it. This indicates a successful connection to the BASE STATION and transmission of ALARM CONDITIONS is now possible.
HOME MODE	Is a condition that automatically isolates certain zones when the system is ARMED.
ISOLATING ZONES	When a zone is isolated access is ALLOWED into that zone. When the system is ARMED and an isolated zone is entered, an alarm condition will not occur.
KISS OFF TONE	Is a tone transmitted over the telephone line from the BASE STATION to the DIGITALARM 908 acknowledging the successful transmission of an alarm report.
KS-1	Is a remote keyswitch used for ARMING and DISARMING of the control panel.

L.E.D.	Is an abbreviation for Light Emitting Diode. These are used as zone indicators etc on the control panel.
LINE FAILURE	When the Telephone line to the control panel is cut or disconnected a F will appear in the SEVEN SEGMENT DISPLAY. As well as this an output has been provided for triggering sirens or another type of communicator when a line fail occurs.
LOCAL ALARM	An alarm system that does not have a digital dialer.
LOCKOUT	If a zone is programmed for lockout it will only cause an alarm condition once every time the panel is ARMED.
LOW SPEED	This is a type of communication FORMAT.
MASTER CODE	Is a 4 digit code used for ARMING and DISARMING the system as well as allowing access to all functions that are programmable through the main codepad.
MANUAL SOLATION	see ISOLATION.
OFF LINE	The dialer on the DIGITALARM 908 has not seized the telephone line to call the base station.
OPEN / CLOSE REPORTS	Reports sent via the Telephone line to a BASE STATION that indicate when the control panel has been either ARMED or DISARMED.
ON LINE	The DIGITALARM 908 is communicating to the BASE STATION.
OUTPUTS	Are provided to operate external devices.
PANIC	This is a type of alarm raised by the system user to indicate to the BASE STATION that there is an emergency situation at the premises.
PHONE CONTROLLER	Is a device used for ARMING the DIGITALARM 908 via the Telephone line. It is also used to terminate the dialling sequence of a DIGITALRM 908D.

P.I.R.	Is an abreviation for Passive Infrared detector.
POWER DOWN MODE	When the system goes into low battery mode the alarm panel disconnects power to the external equipment to preserve it for the dialer only. This is known as POWER DOWN MODE.
P.C.B.	Is an abreviation for printed circuit board.
RECEIVER	see BASE STATION.
REMOTE CODEPAD	Is a codepad that is installed elsewhere from main control panel. It can ARM and DISARM the system and isolate zones but cannot perform any programming functions.
RESTORE SIGNALS	An option available when programming the EPROM for a DIGITALARM 908.
EDMSAT SATELLITE SIREN	A self contained siren unit complete with strobe light and back up battery. Offers a higher level of security for the alarm system.
SEALED	Refers to zones status. If the zone is SEALED the detection devices are not violated and the zone L.E.D. will be extinguished.
SECURITEL	A different type of communication network compared to the telephone dialing system.
SEVEN SEGMENT DISPLAY	Is located in the right hand corner of the DIGITALARM 908. Its function is to display information being programmed into the control panel from the main codepad. It also indicates the EPROM version and LINE FAIL.
SILENT ALARM	When programming the DIGITALARM 908 EPROM it is possible to programme an individual zone for SILENT ALARM this means that when the zone is violated the control panel will communicate with the BASE STATION without sounding the sirens.
SIREN TIME	A pre-programmed time which the sirens will sound for, once an alarm condition has been generated.

SIXTEEN CHANNEL OUTPUT BOARD	Used to interface a DIGITALARM 908L with a SECURITEL unit.
SOFTWARE	see EPROM.
TEST REPORTS	An option available when programming the EPROM for a DIGITALARM 908.
TRUE ANTI-JAM	A communication procedure patented by ELECTRONICS DESIGN & MANUFACTURING.
UNSEALED	Refers to zones status. If the zone is unsealed the detection devices are violated and the zone L.E.D. will be illuminated.
WALK TEST	Is a procedure designed to test whether or not the detection devices are functioning correctly.
ZONES	A monitored input used to trigger an ALARM CONDITION.
24 HOUR ZONE	A monitored input where tamper switches and emergency switches may be connected. If at any time, whether the control panel is ARMED or DISARMED, one of these switches is violated an ALARM CONDITION will be generated.

TELECOM AUSTRALIA - INSTRUCTIONS TO CUSTOMER

Apparatus - Type   : Automatic Dialling Alarm Apparatus
      - Make   : DIGITALARM 908
Authorisation No.   : C85/3/6
Grantee   : ELECTRONICS DESIGN AND MANUFACTURING

INSTALLATION

Attached to this apparatus is a label bearing a Telecom Australia "Authorisation Number". This number is evidence that it is an "Authorised Attachment" which has been authorised by Telecom to be connected to your telephone service.

You will be unable to connect this Authorised Attachment yourself. When you require the installation of this apparatus, contact your local Telecom Business Office and quote the telephone number of your service, the Authorisation or Permit Number attached to this apparatus and request the required action. All additional socket installations or other alterations to your existing wiring must be carried out by Telecom. You will be charged for this work. The telephone number of your local Telecom Business Office can be found in the information pages of your telephone directory.

Should the Authorised Attachment not operate when plugged into a socket, it is either faulty or unsuitable for operation with your telephone service. It should be returned to the store where purchased.

SERVICE DIFFICULTIES

Telecom does not repair faulty Authorised Attachments. A charge will be made for a Telecom serviceman's visit if it is found the fault is in your Authorised Attachment. If at any time a fault occurs on your telephone service carry out the following checks before you call for service:

- Disconnect the Authorised Attachment and try using the service with the normal Telecom telephone.
- If the telephone service then operates satisfactorily, the fault is in your Authorised Attachment. Leave the Authorised Attachment disconnected and report the fault to its suuplier or agent to arrange for repair.
- If when using the Telecom telephone the service is still faulty, report the fault to Telecom's "Service Difficulties and Faults" (Telephone Number 1100) for attention.

Remember if a Telecom serviceman is called out for a fault which is found to be in the Authorised Attachment, the fault will not be repaired and you will be charged for the visit.

You are required to keep this Authorised Attachment in good working order while it is connected to your telephone service. Its construction or internal circuit must not be modified in any way without permission from Telecom.

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Due to a continuing policy of product improvement, the manufacturer reserves the right to change design and specifications without notice.