

CONTENTS

1 OVERVIEW

1.1	Introduction	Page 1-1
1.2	Equipment	Page 1-1
1.3	Operation	Page 1-2
1.4	Control	Page 1-2
1.5	Passcodes	Page 1-2
1.6	Setting	Page 1-3
1.7	Unsetting	Page 1-3
1.8	Circuit definitions	Page 1-3
1.9	Attributes	Page 1-4
1.10	Text	Page 1-4
1.11	Wards	Page 1-4
1.12	Timers	Page 1-4
1.13	Alarms	Page 1-4
1.14	Remote Reset	Page 1-5
1.15	Chime	Page 1-5
1.16	Sounder	Page 1-5
Fig 1-1	Schematic	Page 1-1
Fig 1-2	User Menu Listing	Page 1-5

2 OPERATING THE SYSTEM

Fig 2-1	Setting Menu	Page 2-1/2
Fig 2-2	Omitting	Page 2-3
Fig 2-3	Unsetting	Page 2-3
Fig 2-4	Unsetting with Alarm Present	Page 2-4
Fig 2-5	Menus 2 to 5	Page 2-5
Fig 2-6	Menu 6	Page 2-6
Fig 2-7	Menus 7 and 8	Page 2-7
Fig 2-8	Menus 9 and 10	Page 2-8
Fig 2-9	Menus 11 and 12	Page 2-9

3 RECORDS

3	Circuits Listing
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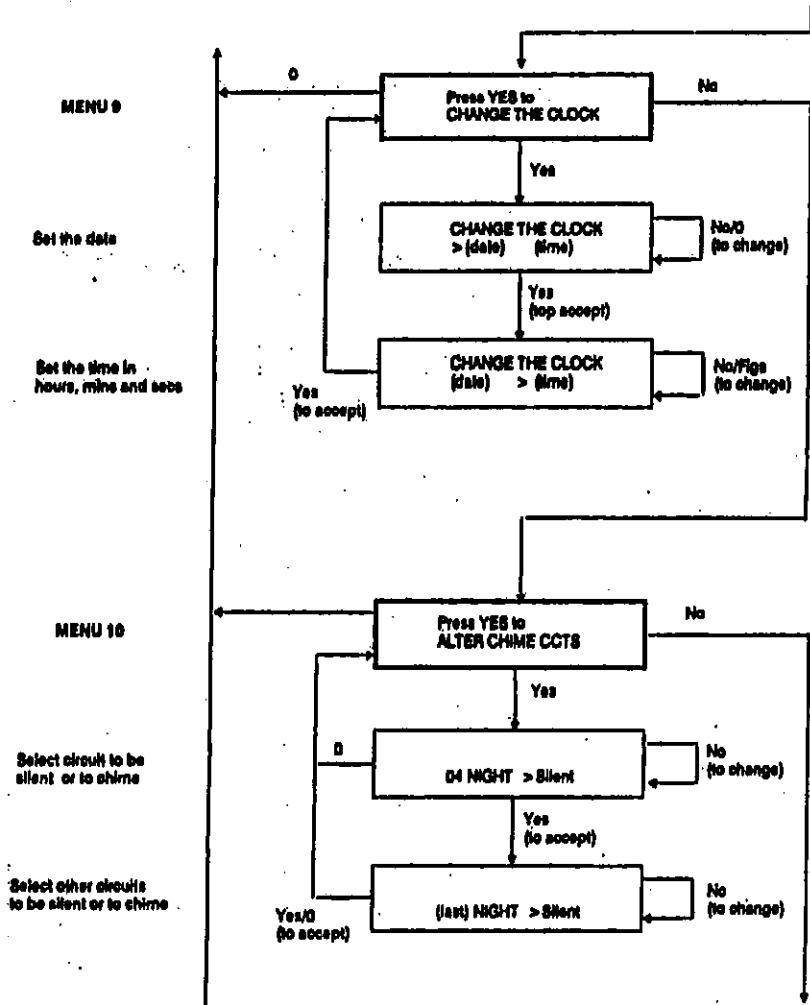


Fig 2 - 8 Menu 9 - 10

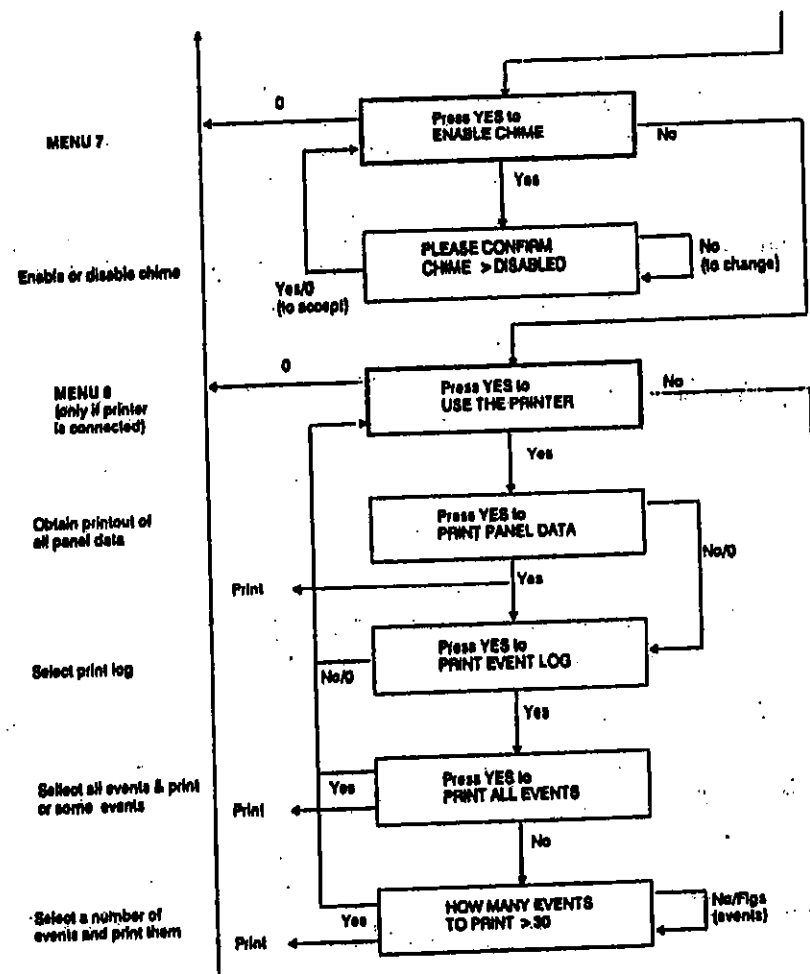


Fig 2 - 7 Menus 7 - 8

TS800 INTRUDER ALARM CONTROL SYSTEM

1 OVERVIEW

1.1 INTRODUCTION

The TS800 Intruder Alarm Control System is provided for domestic and commercial intruder systems conforming to BS 4737: Part 1 1988. There are two versions:

- (1) The Intruder Alarm Control Panel TS800 is a self contained unit with a keypad, a liquid crystal display (LCD), an internal sounder, its own power supply and an internal battery for operation during a mains failure. In its basic form it will monitor up to eight circuits and will provide alarm outputs but additional equipments may be supplied and fitted;
- (2) The Intruder Alarm Panel TS800R is similar to the TS800 but has no front panel keypad or display hence it requires at least one Remote Keypad (REM) to control it.

The panels are microprocessor controlled hence they must be initially programmed, by an engineer, to select the required user options such as number of zones and type of alarm. The general principle of operation is for the panel to monitor zones consisting of a circuit loop, to detect the loop status, then to respond accordingly.

1.2 EQUIPMENT

Additional devices that may be connected to the panels are:

- (1) Remote Keypads (REM) which have a keypad, a display and an internal sounder are used to control the main panel and up to four may be connected. The TS800R must have at least one;
- (2) Local Expansion Card to allow monitoring of a further 8 detection circuits;
- (3) Remote Indicators to indicate circuit activation;
- (4) Digital Communicator (Digicom) to transfer panel status information to a dedicated Central Station via PSTN lines;
- (5) Printer to provide records of the panel operation and panel data.

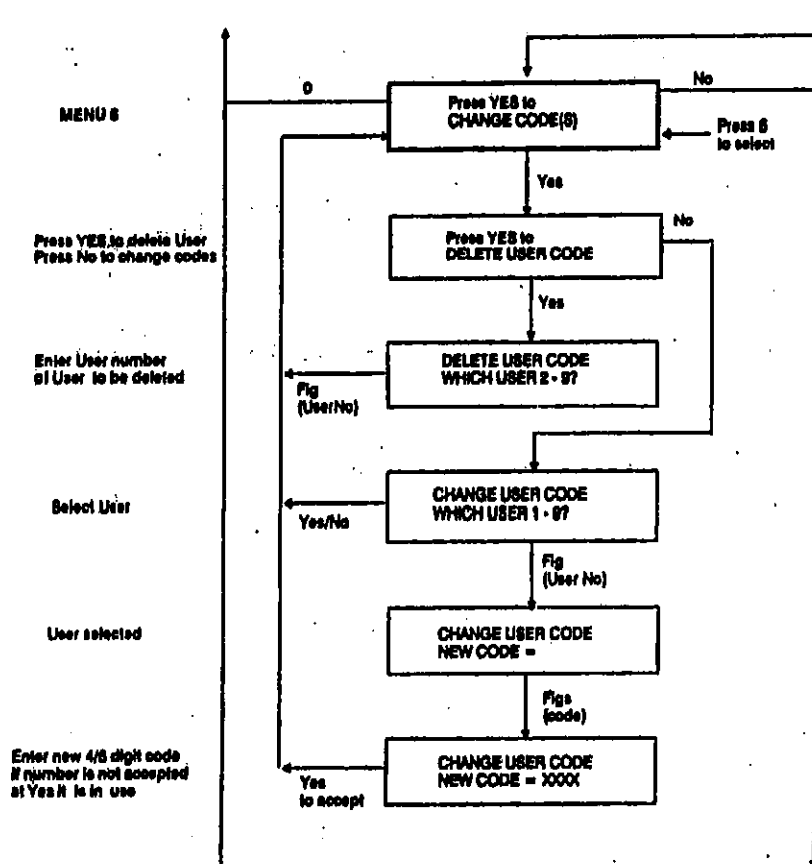


Fig 2 - 6 Menu 6

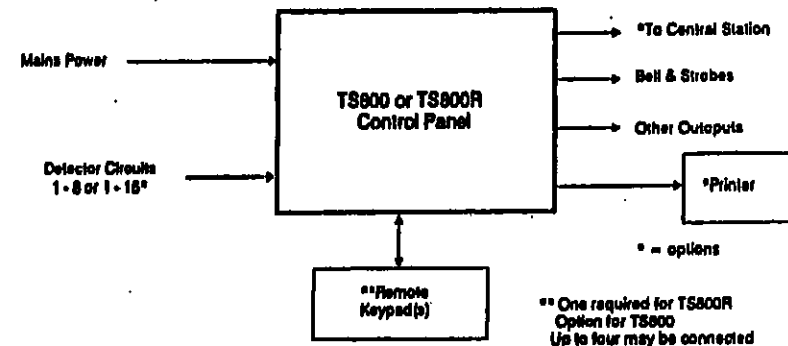


Fig 1 - 1 TS800 Intruder Alarm Control System - Schematic

1.3 OPERATION

1.3.1 The Panel operates in two states which may be considered as MONITORING, when the panel responds to circuit activations, and OPERATOR CONTROLLING, which requires the operator to enter a passcode and operate the front panel or REM keypad.

- (1) Monitoring: The panel may be UNSET when it monitors the 24 Hour, Personal Attack, Auxiliary, Fire and Exit Terminator circuits or any Tamper activation, or it may be SET when it monitors all the circuits connected to it and provides full alarms if a circuit is activated.
- (2) Operator Controlling: The operator is required to Set, Unset or carry out Menu Mode operations. In general the procedure is to enter a passcode and then respond to the displayed comments with YES, NO or 0 key operations unless text or figures are to be entered.

1.4 CONTROL

1.4.1 Control of the panel is achieved by using a Keypad and by reading the Display after a Passcode has been entered. When the system is Set or Unset the display shows the date and time. At other times it shows the system status, and date and time, or the time that the displayed event occurred, using 24 hour clock format.

1.4.2 Using a panel or REM Keypad:

- (1) The Display(s) and the Keypad(s) are automatically illuminated when a key is pressed. The illumination will go out after ten seconds with no keypad operation;
- (2) If a Remote Keypad(s) is connected to the system then when a keypad is in use the other display(s) (if any) will show SYSTEM IN USE and their Keypads will be inhibited;
- (3) Keypad entries are acknowledged by a 'beep'. When using a keypad pressing 0 will nearly always return the User to the initial Passcode entry point.

1.5 PASSCODES (User Codes)

1.5.1 There are three main types of Passcode consisting of a four or six digit code as follows:

- (1) ENGINEER PASSCODE (User 0): A unique Passcode used by the Engineer which permits certain special functions and operations to be carried out but the Engineer cannot Unset a panel that has been Set by any User.
- (2) MASTER USER PASSCODE (User 1): This is a unique Passcode used by the Master User who is normally the prime controller of the panel and who can allocate the Ordinary Users and their Passcodes or delete an Ordinary User. The default code is 5878.
- (3) ORDINARY USER PASSCODES (Users 2 - 9): Passcodes for these users are initially allocated by the Master User and used by nominated personnel who may change their own passcode. The user actions are limited as follows:
 - (a) User 2 - 7: May use Menus 1 to 6 including Set and Unset but User 2 cannot unset Ward 3 and 4, User 3 cannot unset Ward 2 and 4 and User 4 cannot unset Ward 2 and 3;
 - (b) User 8 (cleaner): May Set only;
 - (c) User 9 (holiday user): As Users 2 - 7 but this passcode is automatically cancelled when the Master User unsets a ward(s).

1.5.2 Passcode use: If a mistake is made when entering a Passcode it is only necessary to continue entering the correct code.

CAUTION: If an incorrect passcode is entered more than three times the panel will recognise this as a Keyboard Tamper alarm. The system will respond by displaying CODE TAMPER, and the sounder will operate, until the panel is reset with a correct Passcode. Entering a Passcode with the first two digits reversed will be recognised as a DURESS alarm hence if the Duress Alarm facility is not required the first two digits must be the same.

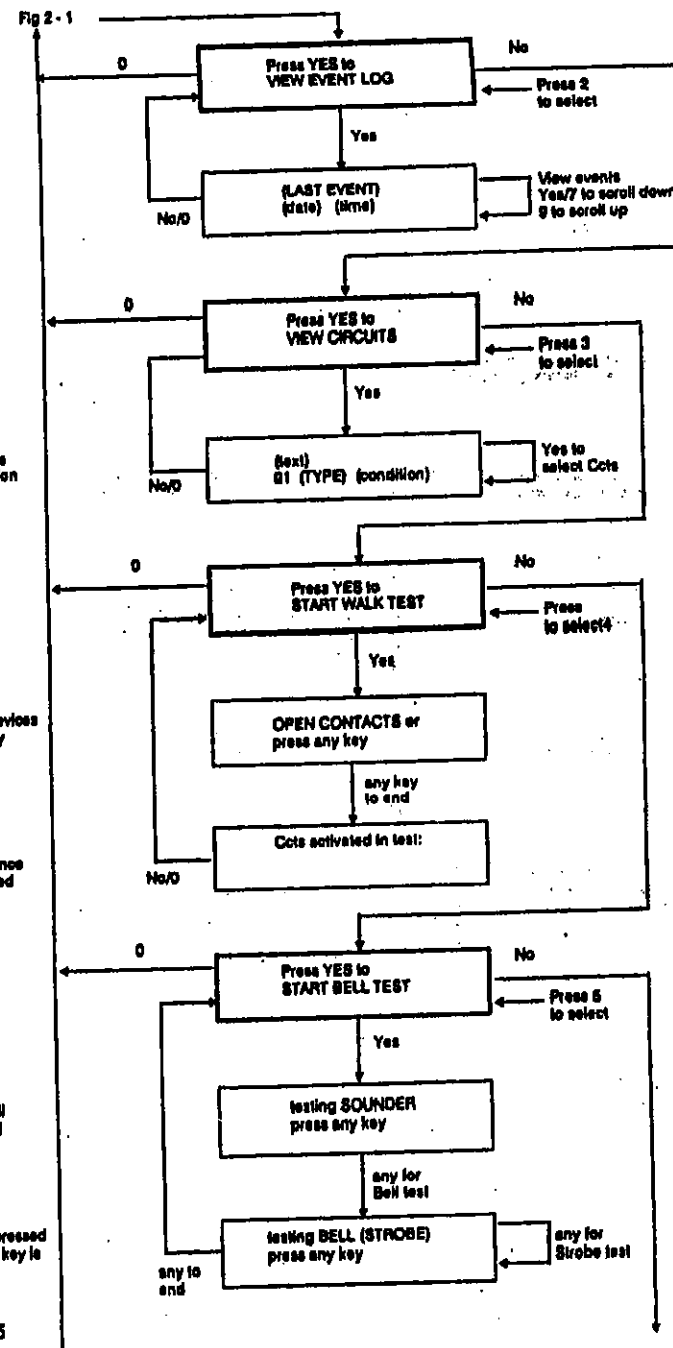


Fig 2-5 Menus 2 - 5

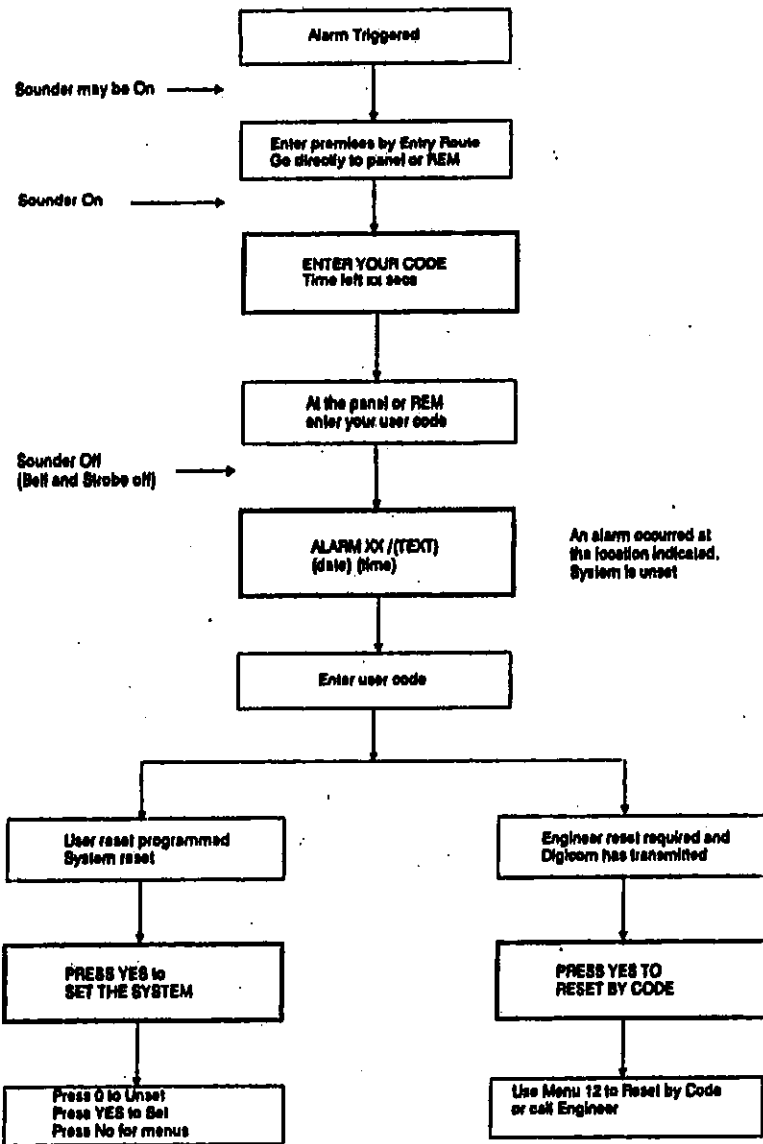


Fig 2 - 1

Fig 2 - 9

Fig 2 - 4 Unsetting with Alarm Present

1.5 SETTING

1.5.1

Flexibility of use of the panel is achieved by providing three forms of Setting as follows:

- (1) Set Full System: all the available circuits connected to the panel are monitored;
- (2) Set Wards (Part Set): certain circuits, previously allocated to a Ward by the Engineer, are monitored when the selected Ward(s) is Set;
- (3) Omit Circuits: this facility permits selected circuits to be omitted by the Engineer (User 0) or by User 1 (Master) when Setting the panel depending upon who has been programmed to do so.

1.5.2

The setting process may be considered as a two stage process as follows:

- (1) Select the type of operation - set all the Wards, or selected Wards (Part Set) or set with circuits omitted;
- (2) Activate the setting process by initiating the exit procedure, except in the case of wards which set immediately.

1.5.3

There are three types of exit procedure and these are:

- (1) Set wards: wards, except ward 1, will set immediately when selected to set;
- (2) Ward 1 Timed Exit: the sequence is started and ward 1 will set after a fixed period determined by the exit timer by the end of which all monitored circuits must be healthy. The user may leave the premises during this period without causing an alarm;
- (3) Ward 1 Exit by circuit: the exit sequence is started but ward 1 will only set by the operation of a circuit which may be:
 - (a) Use the designated last exit; - OR
 - (b) Use the last exit followed by operating the exit Terminator.

1.5.4

During the exit sequence the sounder will operate, unless quiet setting has been programmed and Ward 4 is designated and is not set. At the end of the timed period, or when the last exit or the exit terminator is used, the sounder note will change. After a further fixed delay, if all circuits are healthy, the sounder will stop and the system is set.

1.5.5

If any circuits are not healthy (ie not secure) then the system cannot be set and the faulty circuit will be indicated.

1.7 UNSETTING

1.7.1

Ward 1 (System) is normally unset by the entry procedure and this is initiated by the user opening the designated entry (last exit). This action starts the entry timer and the sounder will pulse at an increasing rate. The user must complete the unsetting by going to the panel, or a REM, and entering his passcode within the entry period otherwise a local alarm will be generated which will turn into a full alarm after a further entry time interval.

1.7.2

If wards 2, 3 or 4 have been set they will be unset when ward 1 is unset by the users allowed to unset particular wards or by these users entering a passcode (para 1.5.1 (3)).

1.7.3

If an alarm has occurred the entry procedure is initially the same. The alarm location will be indicated and the user passcode must be entered again to reset the system unless an Engineer reset is required.

1.8

CIRCUIT DEFINITION

Up to eight circuit definitions are available and each circuit will be allocated to one of them.

- (1) NIGHT: a circuit which is monitored only when the panel is Set and if activated will generate a full alarm;
- (2) 24 HOUR: a circuit which is continuously monitored when the panel is Set or Unset and if activated will generate a full alarm during Set and a local alarm only during Unset;
- (3) LAST EXIT (LT-EX): a circuit which is used when leaving the protected premises and which then initiates the Setting process. It is also used when re-entering the protected premises and then initiates the Unsetting process;
- (4) EXIT TERMINATOR (EX-TR): a circuit which when momentarily activated after use of the Last Exit, will activate the final Setting process but when activated at all other times generates a chime like a door bell;

- (5) **PERSONAL ATTACK (PA):** a circuit which is continuously monitored and which when activated generates an alarm which may be silent or audible;
- (6) **FIRE:** a circuit which is continuously monitored and which if activated will immediately initiate the local sounder fire tone and pulse the bell output;
- (7) **AUXILIARY (AUX):** a circuit which is continuously monitored and which if activated provides an auxiliary alarm output;
- (8) **SPARE:** a circuit which is not used.

1.9 ATTRIBUTES

Circuits may be allocated certain Attributes by the Engineer as follows:

1.9.1

- (1) **Test (T):** A circuit with this attribute will be put into a Test Mode so that its normal response is prevented and only a test response, which consists of logging and displaying the event, occurs;
- (2) **Access (A):** May be allocated to Night circuits that are on an Entry route so that accidental activation by the User during the Entry procedure will have no effect. Circuits with this attribute will also have the following functions:
 - (a) If the panel is Full Set and the device is activated it will generate a Full alarm;
 - (b) If the panel is Part Set and the circuit is in a ward that is set and is not omitted then when activated it will start the Entry procedure;
- (3) **Double Knock (D):** May be allocated to Night and 24 Hour circuits only and must be activated, or have two alarms present, during a preset period to cause an alarm.

1.10 TEXT

Plain language text of up to 16 characters may be allocated to the circuits so that when they are displayed their identity may be more easily determined.

1.11 WARDS

Wards are groups of Night or 24 hour circuits and up to four wards may be defined. All other circuits remain in ward 1 which may be considered as the system although it is referred to as Ward 1. Wards provide a convenient method of simplifying part setting by allowing a single keypad entry setting procedure for a group of pre-defined circuits. Ward 4 may be considered a 'bedroom' Ward which enables the silent setting of the others when it is not set.

1.12 TIMERS

A number of Timers, adjustable from 0 to 99 seconds or minutes, which are set by the Engineer are available to control certain functions as follows:

- (1) **Exit Timer:** It is the period allowed for leaving protected premises when ward 1 Setting has been initiated by timing;
- (2) **Entry Timer:** It is the period allowed for entering the protected premises and to enter a passcode when Ward 1 is Set. It is also the further period allowed to enter a passcode during entry, if the first period is exceeded, before a full alarm occurs;
- (3) **Bell Delay Timer:** The delay time before the S ^B. output and the panel sounder are activated when an alarm (not Fire) occurs. If the panel has a Digital Communicator connected and it detects a line fault then the Bell Delay is cancelled;
- (4) **Bell Duration Timer:** The duration time of Bell and Sounder activation when an alarm is present;
- (5) **Double Knock Timer:** The time during which two activations of the circuit must occur or for which the activation must remain for a Double Knock circuit to alarm;
- (6) **Digicom Delay:** If the system is part set (some wards not set) then if an alarm occurs the digicom operation may be delayed to allow the alarm to be investigated first.

1.13 ALARMS

If an alarm occurs the alarm condition may be reset by the User or the Engineer, also at the end of the Bell duration the circuit may re-arm automatically so as to repeat the alarm after the Bell Delay period if it is still present or if it re-occurs. These options are set by the Engineer.

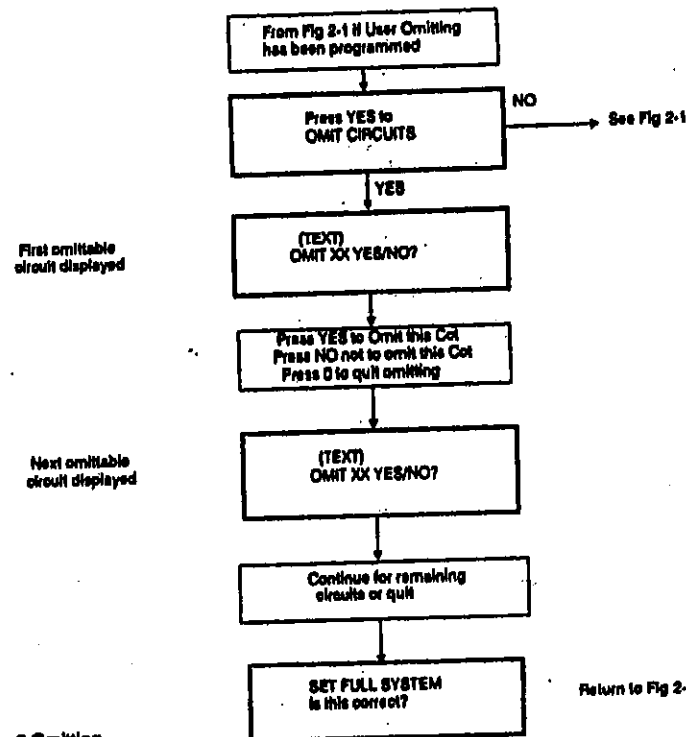


Fig 2 - 2 Omitting

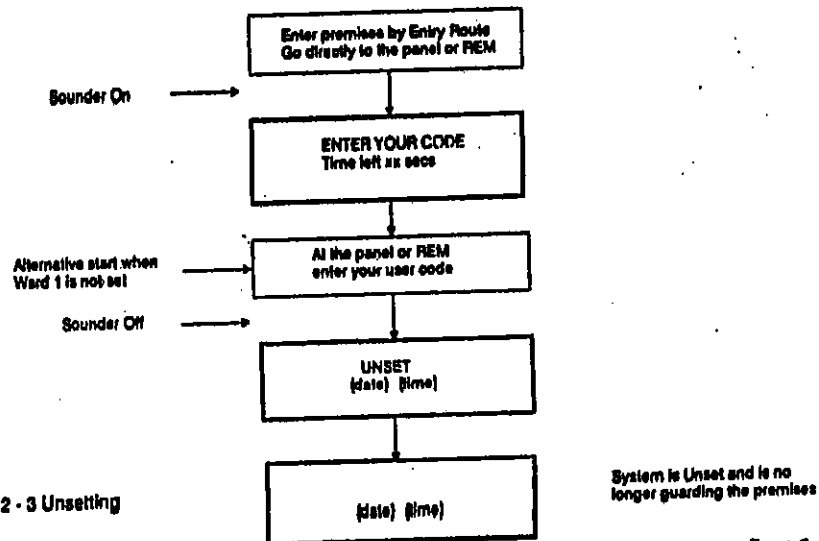


Fig 2 - 3 Unsetting