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TECHNOLOGIES

3GS SYSTEM

TECHNICAL MANUAL

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Warning

While this system is an advanced design integrated security system, it does not offer guaranteed protection against burglary, fire or other emergency. Any alarm system, whether commercial or domestic, is subject to compromise or failure to warn for a variety of reasons.

Therefore, good installation practices, thorough testing and regular maintenance by the installing company and frequent testing by the user are essential to ensure continuous satisfactory operation of the system. It is recommended that the installation company offer a maintenance program and instruct the user with the correct procedure for use and testing of the system.

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3GS Technical Manual - Issue 01 - 2000. Manual Code 6090.

About this Manual

This manual covers the 3GS integrated system with details of hardware components, software programming and peripheral devices. It is designed to enable the installer to completely configure a Europlex 3GS System for intruder alarm, access control and radio functionality.

It is divided into several sections.

- The introduction section
- The hardware section describes the hardware components of the 3GS system. It details each component, how to connect them together, power them and build a completed 3GS integrated system.
- The software section outlines the steps required to setup and customise the system for your requirements.
- The peripheral devices section details all Europlex peripherals, which compliment the operation of the 3GS integrated system.
- The appendix section includes technical specifications for all Europlex products detailed in this manual.

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INTRODUCTION TO 3GS

About this Section

The Introduction to 3GS section provides an overview of the system and describes how to get started using the system.

System Overview

- A brief description of the individual hardware components, with an illustration of a typical 3GS system configuration.
- Guidelines for installation.

1 SYSTEM OVERVIEW

In this chapter

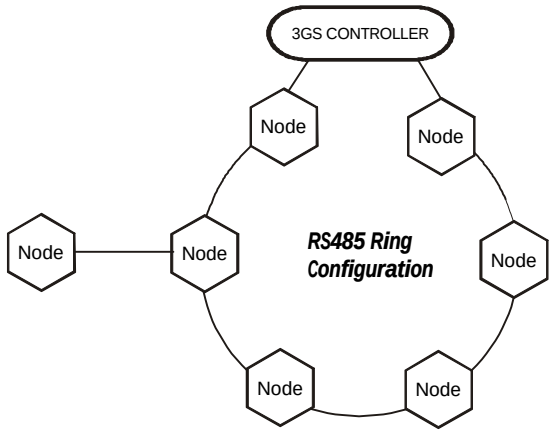
- What is 3GS 1-1
  - cabling
  - system integration
  - communications
- Installation 1-2

WHAT IS 3GS?

The 3rd Generation System, 3GS, is based on a patented high security, fault tolerant Ringnet offering flexibility beyond the boundaries of any existing security control system or access control system. The 3GS is capable of integrating with building management systems and video and audio verification systems. This, coupled with its high security and self-diagnostic features, makes it the most advanced system of its kind.

Cable problems solved

The system architecture consists of interconnected elements called *nodes*, distributed in a ring configuration. These nodes let you access the system to connect inputs, outputs, operator keypad/display units and so on. Power may also be distributed from nodes to the devices connected locally. The current system supports up to 100 nodes and a controller.



The benefits of this topology and associated control protocol are immense. They impart to the system both cable fault tolerance and self diagnostics. For example, if a network cable, wired for fault tolerance, is damaged in any way (for example, cut, shorted or grounded) the user suffers no loss of functionality – all inputs are still monitored; all inputs can still be controlled; all keypads are still functional.

In addition, the location of the fault is indicated by the system – cable tracing to locate the problem is no longer necessary. In fact, accidental Ringnet cable damage need not cause false alarms. Intermittent cable faults, the bane of many an alarm installer, can be isolated and treated.

No longer do multiplex cables mean complicated problems.

Superior communications

The availability of three serial ports (one RS232 9-pin type and two TTL) provides significantly greater communication capabilities.

For example, a LAN, remote PC and a printer can all be connected simultaneously.

Note *Europlex's 3GS+, ED2000, Panelman and Network XII are 3GS compatible.*

Ease of installation

All system nodes are automatically configured, each being assigned an ID number in sequential order. This significantly reduces the time spent programming a system.

Each node on the system is also self diagnostic. Any node can be easily found (even above ceiling tiles or in cupboards) using the unique audio *node locator* system. This ensures that you no longer need to follow wires in order to locate boxes for maintenance purposes.

Once a node has been located, it can be interrogated using the revolutionary Europlex wireless Hand-Held infra-red Terminal (HHT). Without opening the node enclosure full diagnostic testing can be performed, including power voltage and current measurement, input and output status and operation, Ringnet communications status and much more.

Most of the fault-finding process of opening boxes, moving wires, metering, re-positioning of wires and re-closing of boxes and management of associated tamper conditions can be eliminated.

These are only some of the unique advantages of 3GS. A reduction in both installation and maintenance time means cost savings for installation companies, quicker response to customers and less disruption of their business.

System Integration

3GS offers unique and comprehensive integration of access control, wireless and cable alarm capability on one hardware platform. Via its three serial ports, 3GS offers multiple communication possibilities. For example, radio paging, LAN or WAN connectivity, remote servicing via modem and so on.

Welcome to 3GS!

INSTALLATION GUIDELINES

- **IEE regulations.** All installations should comply with IEE wiring regulations regarding the safety and separation of low voltage cable from mains cable.
- **Powering devices.** Rather than powering external devices such as sounders and strobes from the controller (which is not recommended), use Europlex or other approved power supply units.
- **Switched loads.** Devices such as strobes, bells and sirens should be powered on a separate cable to the Ringnet. They should have their power provided from local monitored power supply units, with I/O node outputs driving the local trigger.
- **E.O.L. resistors.** The 3GS system uses two 2k2 (US:1k and 470) end of line resistors per zone.
- **Default Codes Installer: 1010**

  Master User: 1020

Environmental conditions

- **Temperature.** 3GS is built to operate in ambient temperatures in the range -10° to +40°C. Maximum relative humidity (non-condensing) of 90%.
- **Standards.** Designed to conform with BS4737 Part 1 (UK) IS199 1987 and Amendments (Ireland), UL (USA), ULC (Canada) and all relevant European standards.
- **Location of devices.** All electronic devices and inter-connecting cables should be sited away from sources of heat, extreme cold, moisture, vibration, etc.
- **Cabling.** Low voltage cable must be kept away from mains cable. There should be no shared ducts, and this exclusion should apply equally to PA systems, multiplex fire systems, or similar devices.

Ringnet

When wiring the 3GS system network (ringnet) ensure the correct cable type for the system is used.

There are several factors which govern the selection of the cable to be used.

- Environment - When the 3GS is to be used in a noisy environment (high power output devices, mains cables or high voltage devices in close proximity), then Europlex recommend the use of high grade, screened twisted pair cable, such as Belden 9829 or equivalent.
- Distance - When the distance between nodes increases, then the grade of cable used should also be increased as per the cable table below.

cable type	maximum distance between nodes
Standard alarm cable	200m
Belden 9502	500m
UTP Category: 5 (solid core)	1000m
Belden 9829	1000m

Note *The cable distance specified here is the distance between nodes on Port 1A 1B and Port 2A 2B*

- Screen - If screen cable is used, all screens should be linked together and wired to the terminal provided at the node/Controller.
- Branch Node - Each node on the system has two drivers on board for the network, Port 1A 1B and Port 2A 2B to achieve theses distances. However, when using the node as a branch node there are no drivers on Port 3A 3B and Port 4A 4B, which must be accounted for when calculating cable distances.

3GS HARDWARE

About this Section

The Hardware section describes the hardware components of the 3GS system and provides installation details.

It is divided into the following chapters:

Hardware Overview

- A brief description of the individual hardware components, with an illustration of a typical 3GS system configuration.

Controller

- The Controller cabinet variants, with specifications.
- The Controller PCB.
- Details of the terminal blocks, serial ports and cabinet tamper switch connections.

Power Supply Units

- The Power Supply Unit variants, connection and operation.

Nodes

- General overview of the configuration, operation and wiring of nodes.

Communications

- Serial port wiring details, for connection to a PC, modem and other comms. devices.

2 HARDWARE OVERVIEW

In this chapter

- System components 2-1
- System configuration 2-2
- Ringnet communications 2-3
  - sample wiring diagram

SYSTEM COMPONENTS

3GS consists of the following basic components:

- Control Panel
- Power Supply Unit (3, 4 or 8Amp)
- 3GS family of nodes
- Hand Held Terminal (optional)

Each component is described as follows:

Controller

The 3GS Controller hardware consists of a Ringnet interface, three serial ports, a Power Supply Unit (PSU) interface, eight direct connect alarm inputs and four relay outputs.

Ringnet interface

This interface is used for communicating with nodes connected to the panel. Standard alarm cable can be used. However, better performance can be achieved by using twisted pair cable, namely Belden 9829. The maximum distance between nodes is 1Km (using Belden 9829). This interface uses RS485 in a ring topology. The main Controller therefore has two RS485 ports and completes the ring connection.

PSU Interface

This interface is used to connect the Controller to the Power Supply Unit, thus providing power for the Controller. This interface also enables the Controller to monitor the PSU status e.g. battery, fuse, mains and power status.

Serial ports

The 3GS Controller has three serial ports, which can be configured for remote or local operation. They can be used to connect to peripheral devices, such as printers, modems, digis, PCs etc.. These ports allow for remote and local monitoring, reporting and setup, when used with the range of Europlex peripherals and PC Software tools.

Alarm inputs

The Controller is capable of supporting eight direct connect inputs. These inputs support the standard Europlex dual EOL resistors zone (that is, tampers on zones). The end-of-line resistors used are 2k2 (US: 1k and 470). To expand the number of zones (to a maximum of 200), nodes must be added to the Ringnet **[*See - HARDWARE SECTION:* NODES CHAPTER 5]**

Outputs

The Controller has 4 x 1Amp Form-C dry contact relay outputs.

The 3GS is powered by an off board 12V, 3A/4A/8A switchmode power supply unit. All monitoring functions

monitoring of overcurrent condition, fuse fail, mains fail, PSU fail and battery.

system is unset/disarmed and is indicated visually by the red LED on the PSU. The PSU is connected to the main

Nodes

The 3GS family of nodes are a series of additional

capacity and functionality. The following nodes are available:

- Remote Keypad Display node
- 8 Input /1 Output node
- 6 Output node
- IntelliPower node
- Access Control node
- HUA node
- LEM node
- Encryption node

Common to these devices are:

- Ringnet communications
- Input/Output functions
- Infra-red communications
- On-board memory
- On-board Buzzer

[*See page 5-2: Node Functionality*].

Nodes are programmed in a variety of ways: via the keypad, the HHT IR-link, local or remote PC programming. This is a simple menu-driven process **[*see page 5-1: Node Configura*tion].**

Hand Held Terminal

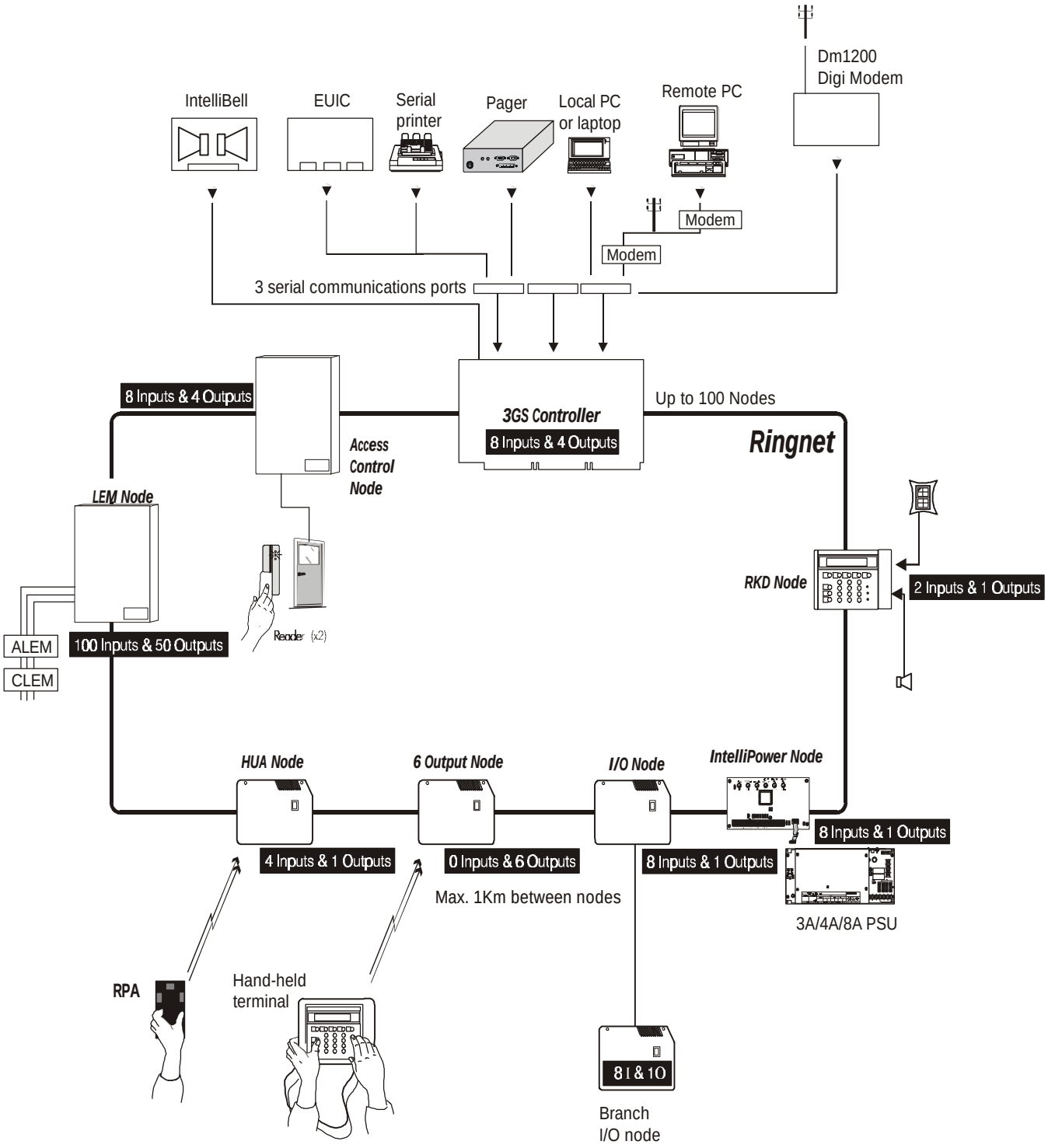
The infra-red Hand Held Terminal (HHT) is an installer's tool for use with the 3GS system. Similar in appearance to the 3GS keypad with a 2x24 character LCD display, the HHT comes in a compact carrying case and is battery powered for portability.

Through the infra-red link you can communicate with any node in the system and extract information such as input and output status, voltage and current draw, ringnet communications status and much more. This feature eliminates the time and cost involved in opening boxes, moving wires and so on.

Other features offered by the HHT include keypad functions, a serial port, a parallel printer port and file saver capabilities. ***[See - PERIPHERAL DEVICES SECTION:* HHT CHAPTER 10*].***

SYSTEM CONFIGURATION

The following diagram shows a typical configuration of the system.



Node Wiring

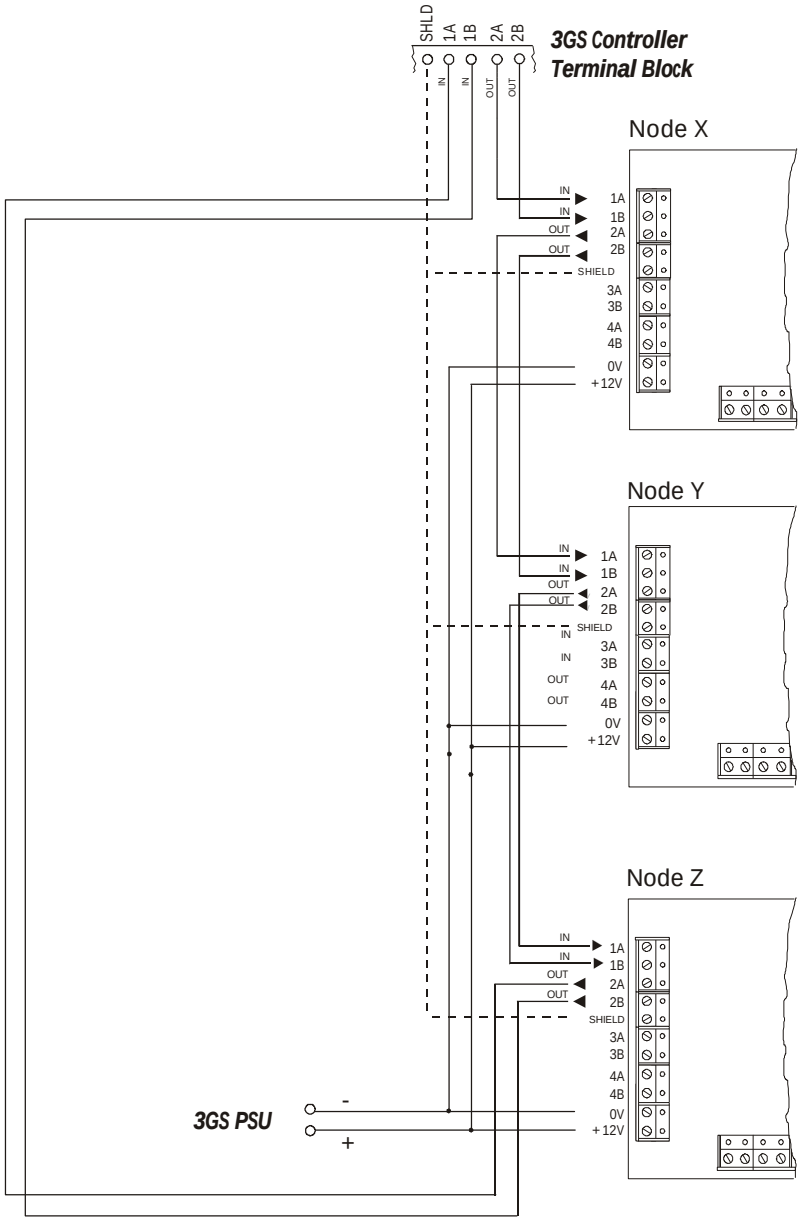
Nodes should be wired in a ring configuration using shielded twisted pair cable such as Belden 9829 or equivalent. It is important to connect the cable shielding to the terminal as shown by the dotted line in the diagram opposite. The maximum distance permitted between nodes is cable dependent (see table below):

Cable Type	Maximum distance between nodes
Standard Alarm Cable	200m
Belden 9502*	500m
UTP Category: 5 (Solid Core)	1000m
Belden 9829	1000m

*or equivalent

We recommend, in line with good working practises, that you site all nodes and inter-connecting cables away from sources of heat, extreme cold, moisture, vibration and so on.

The diagram opposite shows a sample wiring diagram.



3 CONTROLLER

In this chapter

- 3GS Controller overview 3-1
- 3GS Controller PCB 3-2
  - Controller serial ports and connectors
  - Cabinet tamper operation

3GS CONTROLLER OVERVIEW

The 3GS Controller is the control unit for the 3GS system. This PCB contains the core software for the system. When power is applied to this unit the Controller scans the Ringnet for any attached devices and builds up a system configuration. Any changes to this configuration will be monitored by the Controller and the appropriate action taken. The Controller stores all programmed data in its memory, which is battery backed-up.

The 3GS Controller has 8 inputs and 4 outputs on board (see Connection diagram). A Ringnet communications port provides an interface to the nodes which provide intruder, access and radio functionality (see Ringnet Connection Diagram).

The Controller has 3 serial ports, one 9 pin D-type and two 4-way terminal block. These ports are used for connection to reporting devices:

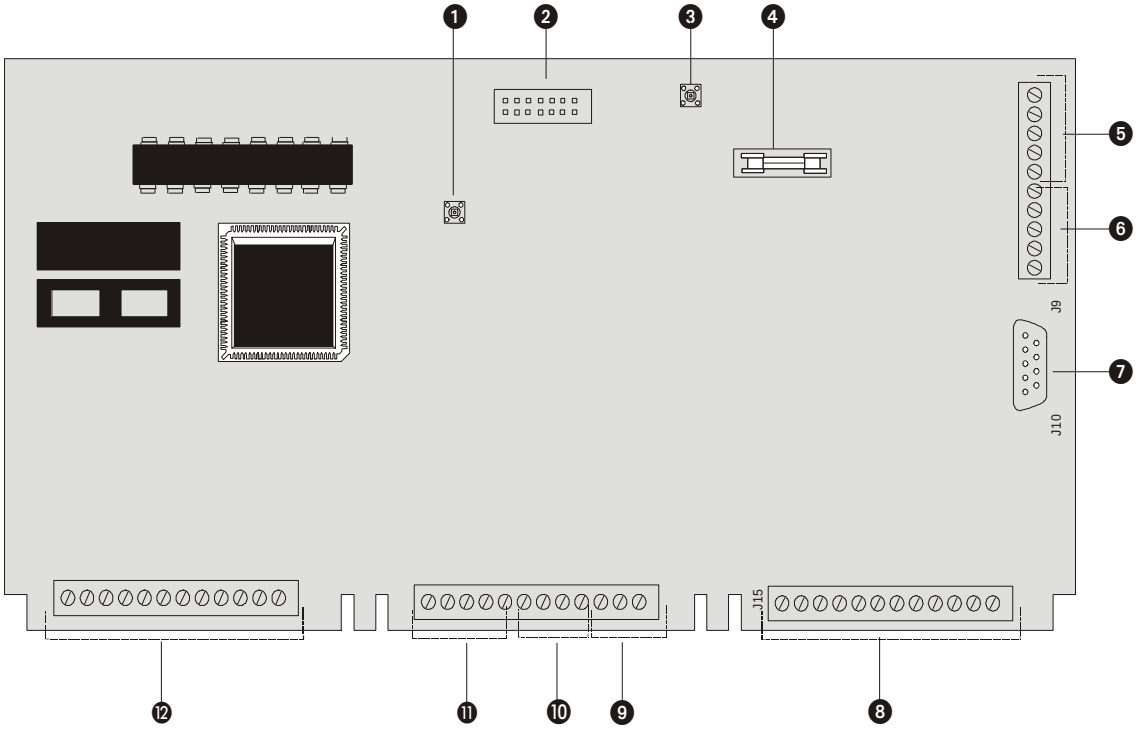
- central station via DM1200
- remote monitoring station via modem or LAN - TCP/IP
- local monitor devices such as a PC or printer
- programming tools for upload/download such as PC or HHT

[*See - HARDWARE SECTION:* *SERIAL COMMUNICATIONS CHAPTER 6*]

The Controller is powered through the PSU connection socket. Depending on the system requirement, a Europlex 3, 4 or 8Amp switch-mode power supply unit must be used (see *Power Supply*).

The Controller also provides an interface for external siren and monitors it's housing for front and back tampers.

CONTROLLER PCB



① **Reset button**

② **Power supply and current consumption (lead supplied)** 8-14V supplied via connector, quiescent current 200mA

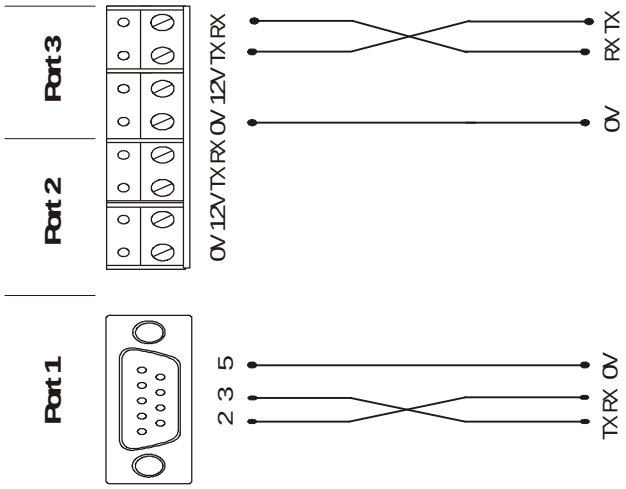
③ **Kickstart button**

④ **Serial port fuse** 500mA 250V quick blow

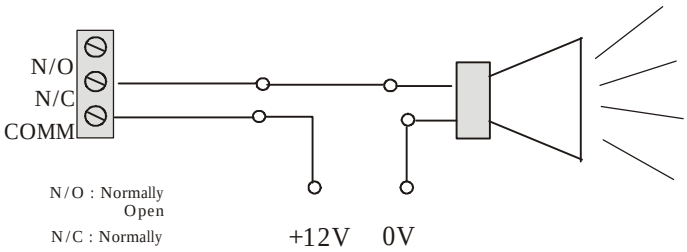
⑤ **Serial port 3** See diagram opposite

⑥ **Serial port 2** See diagram opposite

⑦ **Serial port 1** See diagram opposite

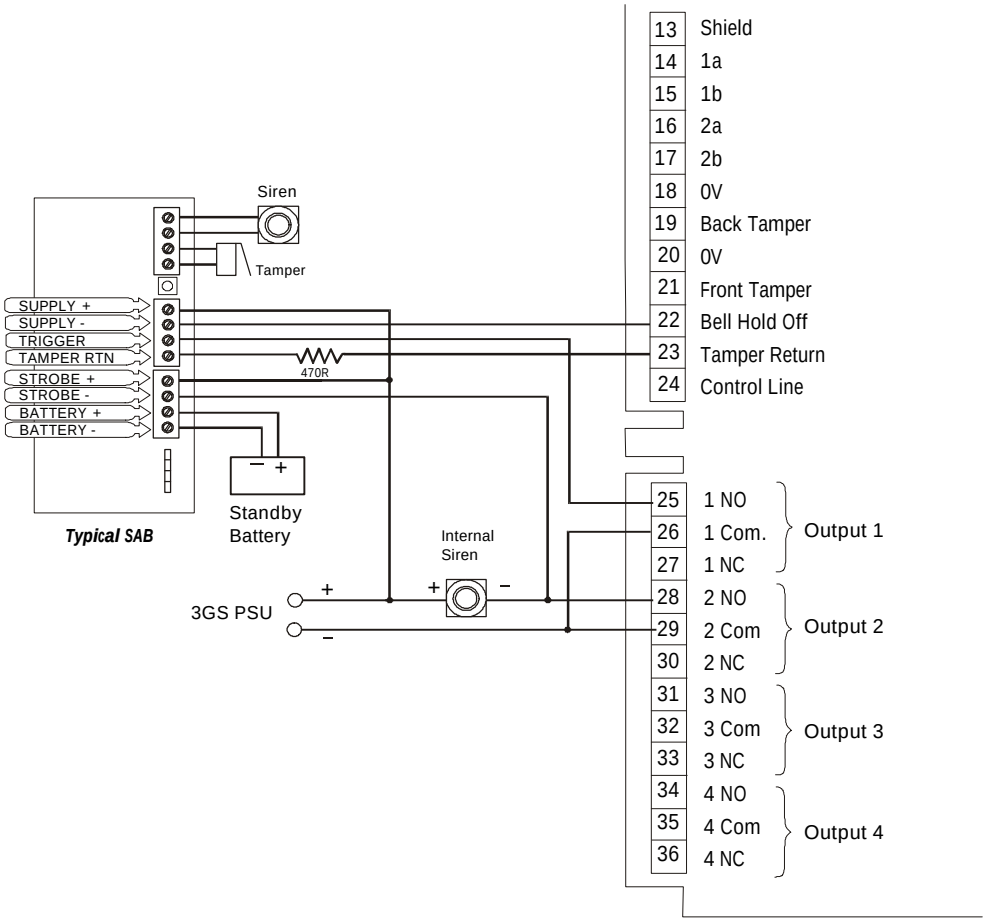


⑧ **Outputs** The Controller has four on-board 1Amp single pole changeover relays assigned to system outputs 1, 2, 3 and 4 by default.

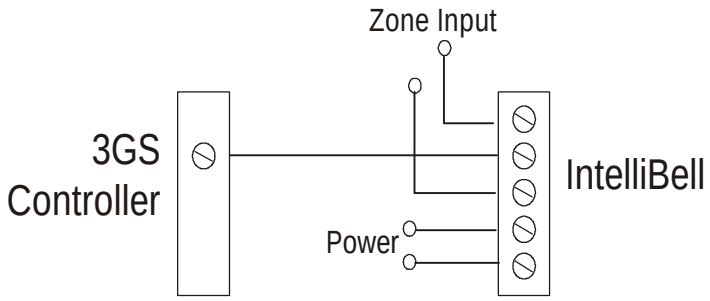


⑨ **These connections are:**

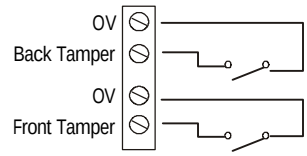
- **Bell Hold Off (BHO) and Tamper Return (TR)** These are used for connection of a self activating bell, as shown in diagram.

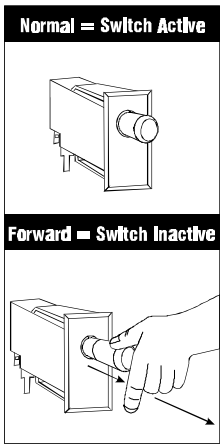


- **Control Line (CNTL)** This is used for connection to Europlex peripheral devices, such as the IntelliBell and the DM1200. See example wiring below.



⑩ **Tampers**:

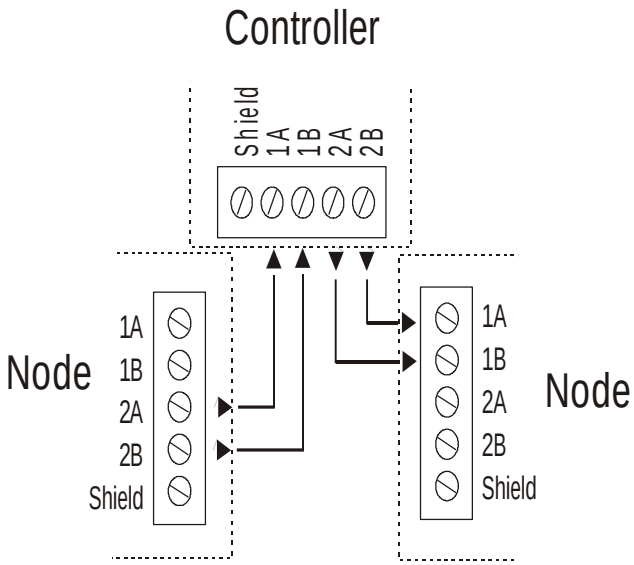




Tampers The Cherry tamper switch located on the back wall of the cabinet should be connected to terminals 18 & 19. The front tamper switch is also of Cherry type and should be connected to terminals 20 & 21. The tamper switch has a cheat feature that allows the switch to be inactive when the cabinet door is open. This is enabled by pulling the tamper switch spigot into a forward position. Both are wired as normally open.

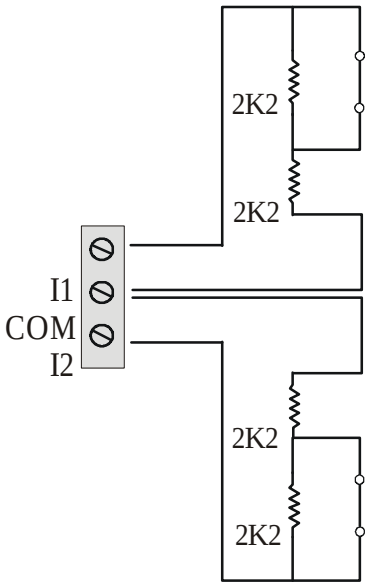
⑪ **Ringnet Communications** Connect the Ringnet cable to the four terminals 1A to 2B.

These terminals are used for connecting the Controller node onto the ringnet (see connection diagram and cable type table below).



cable type	maximum distance between nodes
Standard alarm cable	200m
Belden 9502	500m
UTP Category: 5 solid core	1000m
Belden 9829	1000m

⑫ **Inputs** The Controller node has eight on-board zone inputs. These inputs are monitored using dual E.O.L. supervision as wired below.



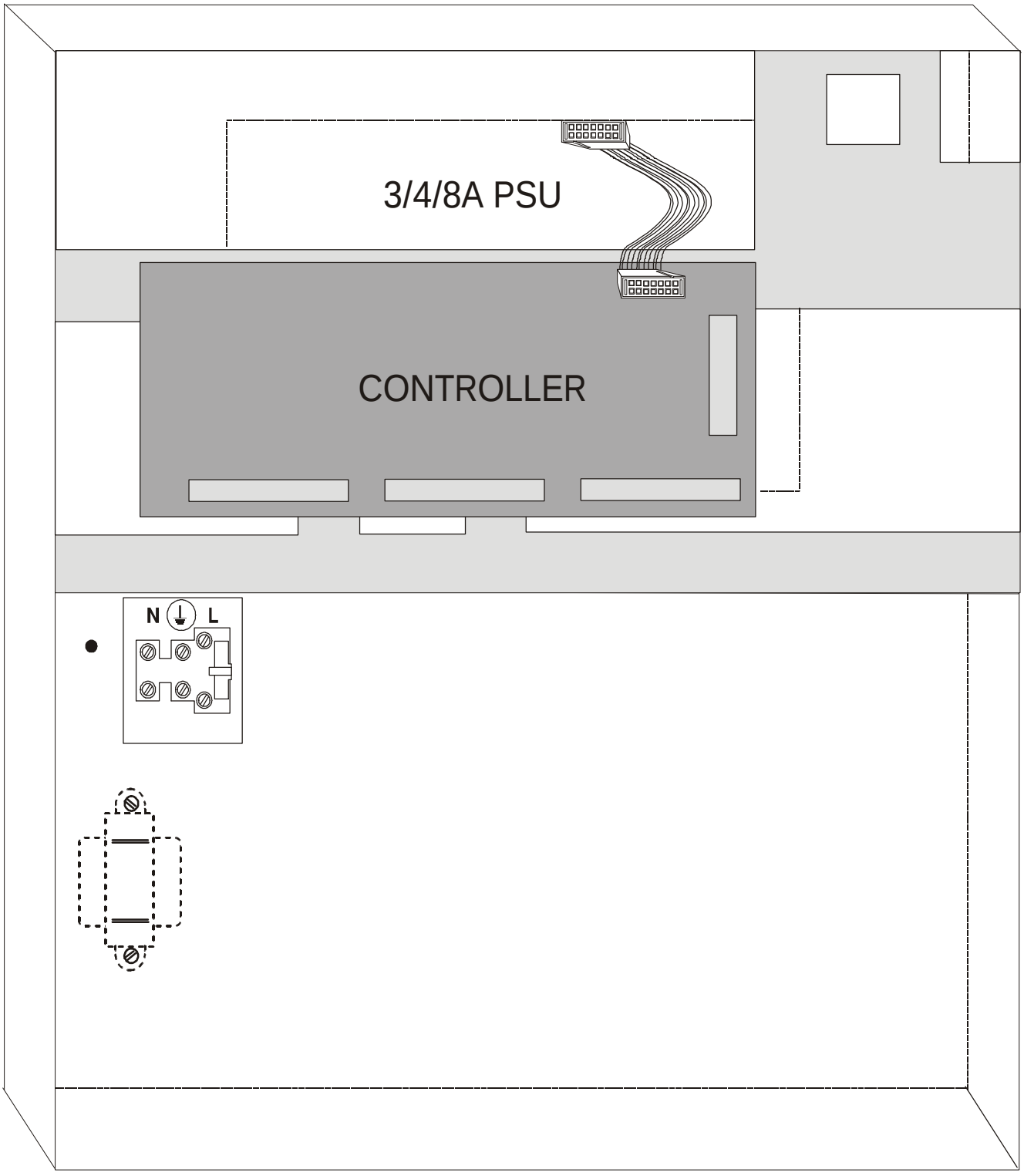
description	value	zone status
OPEN	4400	Zone open
CLOSED	2200	Zone closed
DISCON	30 000	Zone disconnected
SHORT	< 1400	Zone shorted
DC SUBS	Variable	DC Voltage substitution

Controller cabinet

The 3GS Controller is housed in a metal cabinet as shown below. Within the cabinet there is room for a 3 Amp (with transformer) or 4/8 Amp power supply unit and battery backup (up to 2 X 36 AH). Mounting holes are provided for a DM1200 or arrangement of nodes.

Note *This cabinet comes in two sizes:*

- *E - CAB - 1236 Midrange small battery (15/17) AH*
- *E - CAB - 1237 Midrange large battery (24/38) AH*



4 INTELLIGENT POWER SUPPLY UNITS

In this chapter

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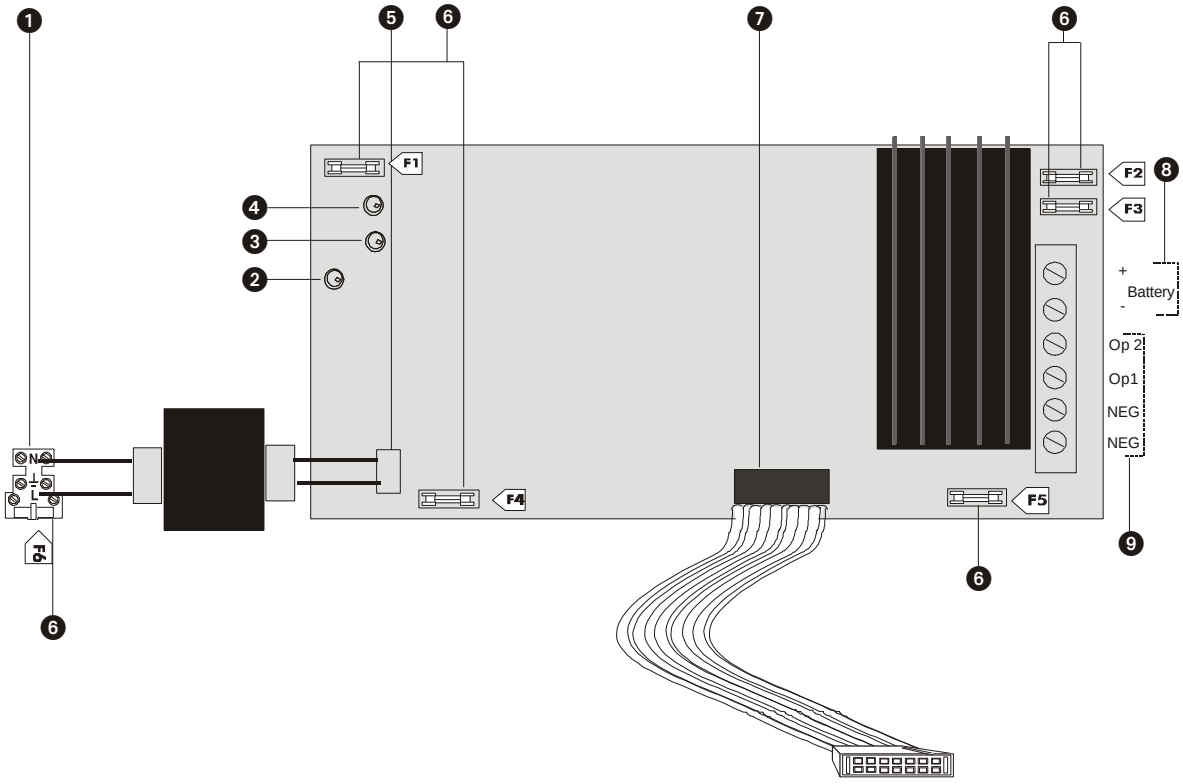
- PSU 4Amp and 8Amp 4-2
- Connecting the PSU 4-3
- Battery information 4-3

PSU 3AMP



① **Mains/ A.C. block terminal**

② **Power On LED**

③ **Load On LED**

④ **Bat On LED**

⑤ **Transformer connection**

⑥ **Fuses** See fuse table opposite

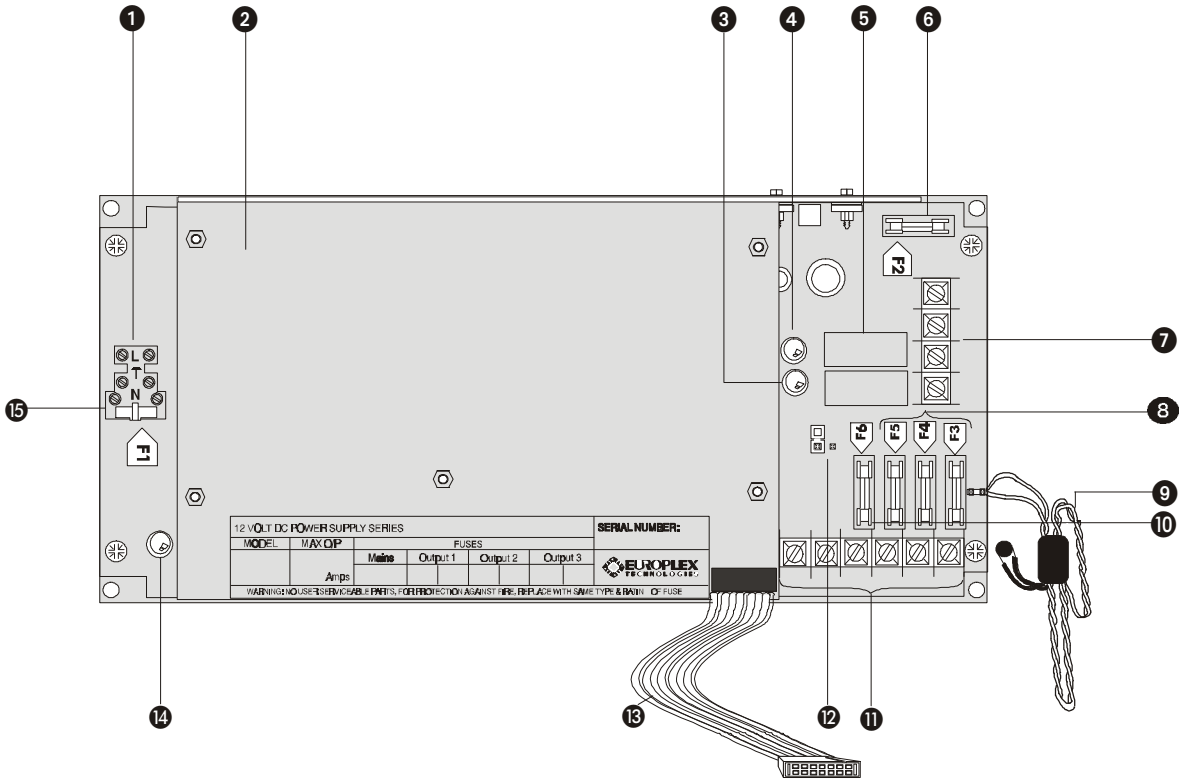
⑦ **PSU to controller connection (supplied)**

⑧ **Battery Pos/Neg terminals**

⑨ **Output**

Fuse (20mm)	3 Amp
F1 Battery	3.15A Quick Blow
F2 Output 2	2A Quick Blow
F3 Output 1	2A Quick Blow
F4 On Board Mains	3.15A Quick Blow
F5 Controller	500mA Quick Blow
F6 Mains/AC	250mA Anti-surge

PSU 4/8 AMP



① **Mains/ A.C. block terminal**

② **Heat sink enclosure**

③ **Battery test LED (red)**

④ **Battery charge LED (yellow)**

⑤ **Relay A**

⑥ **F2 battery fuse (10A)** See fuse table below

⑦ **Battery Pos./Neg. terminals**

⑧ **F3, F4 and F5 Output fuses** See fuse table below

⑨ **Thermocouple**

⑩ **F6 Controller PCB fuse** See fuse table below

⑪ **12V output terminals**

⑫ **PSU standalone link (no link for 3GS operation)**

⑬ **PSU to controller connector (supplied)**

⑭ **Mains/AC Power LED**

⑮ **FI Mains**

Fuse (20mm)	4 Amp	8 Amp
F1 Mains/A.C.	2.5A	2.5A Quick Blow
F2 Battery	10A	10A Quick Blow
F3 Output 1	1A	2A Quick Blow
F4 Output 2	1A	2A Quick Blow
F5 Output 3	1A	2A Quick Blow
F6 Controller	500mA	500mA Quick Blow

Additional Information

Connecting the Intellipower PSUs

In order to function as specified, both primary and secondary power sources should be connected to the 3GS PSU. The PSU features temperature compensated battery charging. It also has an on-board resistor to enable testing of the battery. The PSU has three independent fused outputs.

The primary power source is connected to the PSU via a fused mains block CN1, which is located on the extreme left of the PCB. The mains supply should also have a good earth which should be connected to the mains block so labelled.

In the event of a mains failure it is essential to have a battery back-up as a secondary power source. We recommend using the Yuasa NP series of batteries. Connect a sealed 12V lead-acid battery to the battery pos/neg terminals (6) shown in diagram.

The PSU delivers 13.65VDC to the controller PCB via a 14-way ribbon cable (12) shown in diagram. Monitored data (such as low battery, fuse fail, mains fail) is also carried on this cable.

Standby battery – power calculation

Ensure that adequate standby power is available for all devices in the event of mains supply failure. The capacity of the battery is expressed as a standard ampere hour rate by multiplying the current drawn and the time taken before the battery terminal voltage falls to a set figure.

Use the table below to calculate the power requirement. For example, if you have a 3Amp load and require 16 hours standby battery back up, you need a 48Ah battery (2 x 24Ah) with the 8Amp version of the PSU. This table has been calculated on the basis of a battery recharge time of 24 hours; that is, in 24 hours the battery is recharged to 80% of its normal capacity.

Load / Standby time	1 Amp		2 Amp		3 Amp		4 Amp	
	Battery	PSU	Battery	PSU	Battery	PSU	Battery	PSU
12 hours	12Ah	4A	24Ah	4A	36Ah	8A	48Ah	8A
16 hours	16Ah	4A	32Ah	8A	48Ah	8A	64Ah	8A
24 hours	24Ah	4A	48Ah	8A	72Ah	8A		
60 hours	60Ah	8A						
72 hours	72Ah	8A						

To check the battery on a 4/8Amp PSU

1 The system should be initially powered up on the standby battery.

2 Ensure a 12V rechargeable battery is connected and then hold down the controller Kick Start button for approximately one second.

   This should energise Relay A and power the system from the standby battery (assuming the battery voltage is above 10.5VDC).

   The yellow LED on the PSU should illuminate indicating that a charged battery is connected.

3 Apply the AC mains voltage to the power supply unit.

   The green LED located beside the mains terminal should illuminate to indicate mains voltage is present.

Battery charging is controlled by the 3GS Controller. When the battery charge relay closes, the yellow LED illuminates to indicate the battery is being charged.

5 NODES

In this chapter

- Nodes Overview 5-1
  - Brief description of each node
  - Common functionality
  - Basic node enclosure
  - Powering-up a node
- Remote Keypad Display node 5-4
- 8 Input /1 Output node 5-8
- 6 Output node 5-13
- IntelliPower node 5-16
- Access Control system 5-21
- Access Control node 5-22
- Radio system 5-28
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- Radio Panic Attack unit 5-33
- Pager transmitter unit 5-34
- Pager receiver unit 5-35
- LEM node 5-38
- Encryption node 5-42

NODES OVERVIEW

The following nodes are currently supported by the 3GS System:

- Remote Keypad Display node
- 8 Input /1 Output node
- 6 Output node
- IntelliPower node
- Access Control node
- Hold-Up Alarm node
- LEM node
- Encryption node

Remote Keypad Display node

The Remote Keypad Display (RKD) node is a wall-mounted unit that allows you to control, program and observe the past or present state of the system.

This is achieved using a 20-key tactile keypad and a 2x24 character LCD backlit display. All current versions of keypads have two inputs on-board and one relay output. Once power is applied to the RKD, the node diagnostic menus can be accessed.

8 Input/1 Output node

The 8 Input /1 Output (I/O) node is the primary interface between the 3GS system and the sensors/actuators of an installation. Each I/O node has eight end of line resistor input zones and one output.

Each I/O node has a status LED and on-board buzzer. They also posses extensive self-diagnostic capabilities. A bi-directional infra-red link to the hand held terminal exists on all nodes that do not already have a display/ keypad interface.

6 Output node

The 6 Output node expands the system by providing six additional relay outputs. The outputs are Form C 1A 12V Dry Contact type and are programmed using the Controller software. **[*See page 8-22: Node Configure - Outputs*].**

The 6 Output node also features an on-board status LED, and operation can be monitored using the on-board infra-red link to the hand-held terminal.

IntelliPower node

The IntelliPower node monitors the status of its associated power supply unit anywhere on the 3GS Ringnet system. The node receives data and power directly from the PSU, and interfaces with the Controller via the Ringnet. A series of LEDs give immediate indication of mains failure, fuse failure, PSU failure, over-current, battery problems or communications failure. Corresponding alert messages are sent back to the Controller and shown on the keypad display.

Hold-Up Alarm node

The Hold-Up Alarm (HUA) node is used to provide an interface to the 3GS Radio system. The node has a radio receiver module on-board, which can currently be either 418MHz or 433MHz. The node has four intruder alarm zone inputs and one unassigned system output. Again this node has infra-red communications, which can be used via the HHT for diagnostic purposes. Using the HUA nodes, the radio or article protection system has a capacity for 126 radio panic attack units (RPA) or article protection units (APU). **[*See page 7-3: Radio System Overview*].**

Access Control node

The 3GS Access Control node (ACN) provides the interface to the access system. The node is a two door Controller with a capacity for four readers (two entry and two exit). The Access Control Node has two door lock outputs and two spare, unassigned system outputs. The node also has two zone inputs (for intruder configuration) and two door inputs (for integrated access control and monitoring of door forced and left open alarms). The diagnostic menu for the ACN can be accessed using the HHT. The 3GS system has a capacity for 10,000 card holders and 64 doors. **[*See page 7-3: Access System Overview*].**

LEM node

The LEM node allows you to upgrade a system from Aplex/Adplex to 3GS without a complete re-wiring of the installation.With the Aplex/Adplex panel replaced by a 3GS Controller, all existing LEM modules and I/O devices can be run through the LEM node back to the Controller. LEM node inputs are recognised by the system as standard node inputs and so do not need to be re-addressed. The LEM node is powered by its own 1Amp linear power supply.

Note *The Aplex/Adplex RKD is not supported and should not be replaced by 3GS RKDs on the ringnet.*

Encryption node

The Encryption node provides maximum security for the reporting of zone inputs. A pre-addressed encryption module is placed within a system sensor, and connected to the sensor alarm and contact terminals on the Encryption node. Activation of the sensor is reported back to the node, giving the individual module address, and then back to the Controller. The individual addressing of the module makes zone substitution and system compromise difficult.

Node Functionality

The following features are common to all nodes:

Ringnet communications

Europlex nodes are connected to each other via a two wire RS485 network called the ringnet. It is wired in a ring, starting from the 3GS Controller to the first node, and any subsequent nodes and, finally, from the last node back to the Controller. All nodes connect to the Ringnet in the same way and the same cabling conditions apply. The maximum distance allowed from Controller to node using standard alarm cable is 200m, or 500m if using Belden 9502 cable. A distance of 1000m is possible using UTP Category 5 solid core or Belden 9829:

cable type	maximum distance between nodes
Standard alarm cable	200m
Belden 9502	500m
UTP Category: 5 (solid core)	1000m
Belden 9829	1000m

Input/Output functions

Each node has some input/output capabilities, depending on the node. For the inputs to function as 3GS alarm zones, two 2K2 (US:1k and 470) end-of-line resistors must be connected. The Controller then determines the zone status by reading the end-of-line resistance value, according to the following table:

description	value	zone status
OPEN	4400	Zone open
CLOSED	2200	Zone closed
DISCON	30 000	Zone disconnected
SHORT	< 1400	Zone shorted
DC SUBS	Variable	DC Voltage substitution

The outputs are 1Amp Form-C dry contact relay outputs. These relays can be used to drive external devices, such as a siren.

Infra-Red Communication

All nodes (except the RKD) are fitted with infra-red transmit and receive capability. This allows you to use the 3GS Hand Held Terminal (HHT) to program or interrogate the system without having to make physical connections, open boxes and so on. You can communicate with the system by simply switching on the HHT and pointing it at the nearest node.

HHT gives access to node set-up and status information, such as:

- Serial number
- Software version fitted
- Actual voltage and current used
- Ringnet communications status
- Status of inputs and their resistance values
- Status of outputs

On-board memory

All nodes have on-board memory. This is used for storing data, allowing you to program the system. Programming can be done using:

- the RKD
- the HHT IR Link
- a local or remote PC

(See Software Section).

On-board buzzer

Each node has its own piezo buzzer fitted, to allow you to locate the node (for service and so on). You simply have to locate the nearest node and request the missing node to sound its buzzer, in this way highlighting its location (for example, above false ceilings). You activate the buzzer using the Node Find option. **[*See page 8-18: Node Configure - Information*].**

In addition, you can assign each node a text description to help you locate it more easily.

Tamper switches

All nodes monitor for front and back tampers. Some have on-board tamper switches and some have terminals supplied, depending on the cabinet. Most nodes allow for bypassing tampers using on-board tamper links.

Note *The link must be removed to enable tamper monitoring.*

Powering-up nodes for the first time

Powering-up the 3GS system (called a **cold start**) will bring any nodes, inputs and doors physically connected to the Ringnet onto the system. You will be given the opportunity to verify the number of nodes, inputs and doors connected.

To power-up the 3GS system

1 The Controller will scan the Ringnet for connected nodes, and indicates the number of nodes found. For example:

`ONLINE NODES 0 -> 3.`

If this number does not match the number you know to be connected, check the cabling and power connections (see Ringnet). Then rescan the Ringnet by pressing the NO key.

2 If you are satisfied the number is correct, press YES.

Once the correct number of nodes are seen to be on-line the Controller scans the Ringnet and indicates the number of zones found (a zone is brought on-line if a zone input on a node has an EOL connected). For example:

`ONLINE INPUTS 0 -> 5.`

If this number of on-line inputs does not match the number you know to be connected, check all zone inputs for EOLs and cabling (see Input/Output). Then rescan the Ringnet by pressing the NO key.

3 If you are satisfied the number is correct, press YES.

Once the correct number of inputs are seen to be on-line the Controller scans the Ringnet and indicates the number of doors found (a door is brought on-line if the door input on the access node has an EOL connected to it). For example:

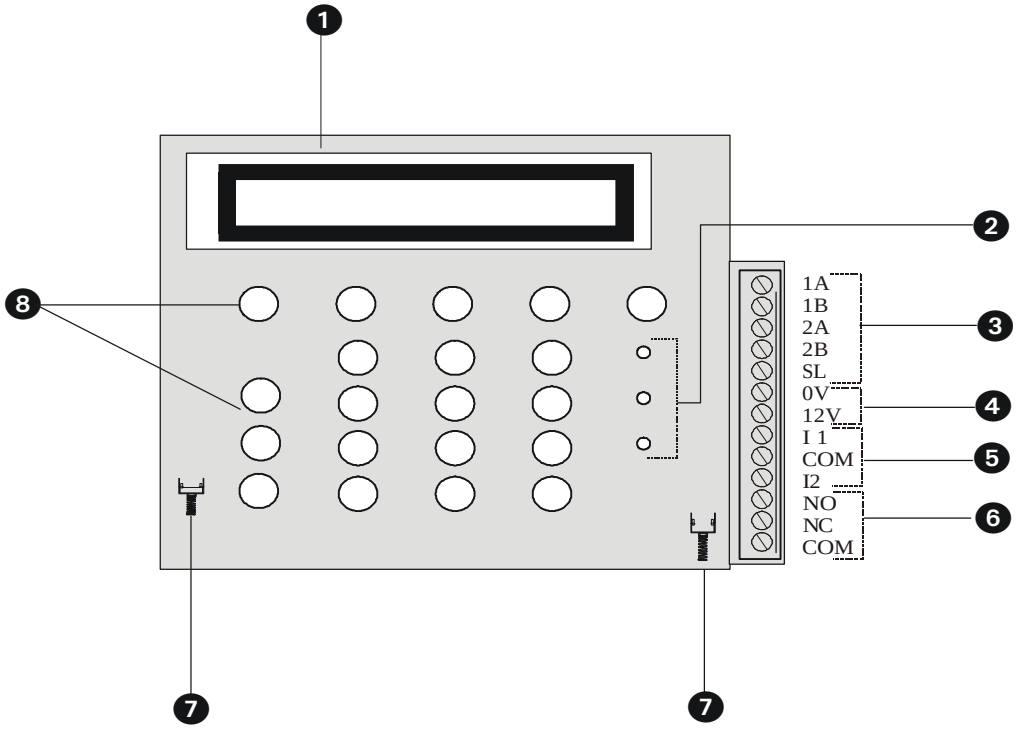
`ONLINE DOORS 0 -> 4.`

Note *To replace nodes, add nodes to the system or remove a node,* **[*see page 8-16: Node Configure*].**

REMOTE KEYPAD DISPLAY (RKD) NODE

Description

The Remote Keypad Display (RKD) node is a wall-mounted unit that allows you to control, program and observe the past or present state of the 3GS system or to arm/disarm the system. The RKD is capable of monitoring its own supply voltage and its integral front and back tamper switches. Like all system nodes, the RKD will have been automatically assigned a unique address following a power up.



① **2x24 Character LCD Display** This display is used to show all alert and warning messages and menus. The display contrast and backlight can be adjusted through the menus. **[*See page 8-22: Node Configure - Outputs*].**

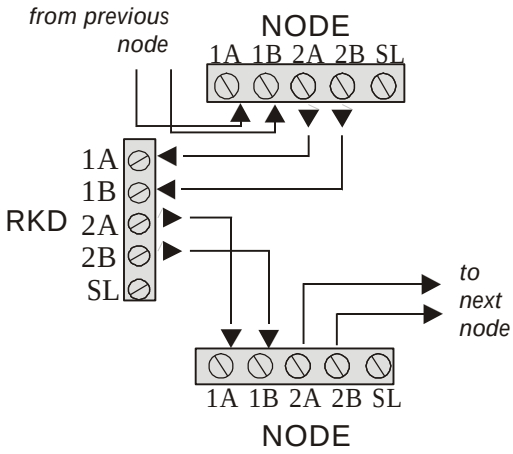
② **LED status indicators** The three LEDs to the right of the numeric keypad indicate the system's current status, as follows:

- **Yellow LED:** Indicates the occurrence of a system event. An alert or warning message will indicate the location and nature of the event.
- **Green LED.** Indicates the presence, or failure of, the mains supply.
- **Red LED.** Remains steady to indicate a fault on both communications lines, and displays two distinctive flashing sequences to indicate a fault on either communications line:

	LED Steady	*LED Flashing*
Green	Mains supply present ●	✳ Mains supply failure
Yellow	System warning message ●	✳ System alert message
Red	Communications lost ●	✳ Communications OK (flashes *on* briefly every 2-3 seconds.)
	Communications lost line 1A 1B ●○ (flashes off *once* every 2-3 seconds.)	
	Communications lost line 2A 2B ●○○ (flashes off *twice* every 2-3 seconds.)	

③ **Ringnet Communications** Connect the Ringnet cable to the four terminals 1A to 2B.

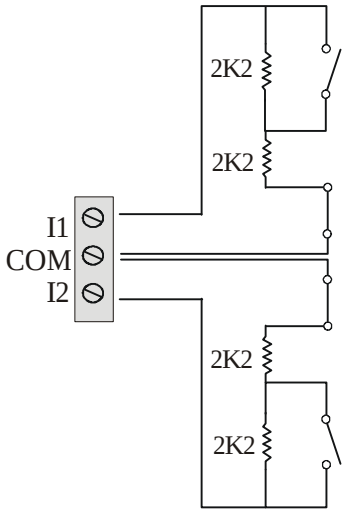
These terminals are used for connecting the RKD node onto the ringnet (see connection diagram and cable type table below).



cable type	maximum distance between nodes
Standard alarm cable	200m
Belden 9502	500m
UTP Category: 5 (solid core)	1000m
Belden 9829	1000m

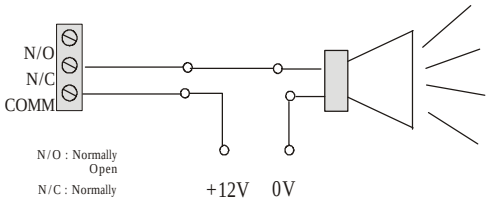
④ **Power supply & current consumption** To function correctly the RKD requires 12Vdc which should be supplied either directly from the Controller power supply unit or from a remote power supply unit. Current Consumption -Quiescent State: 150mA (backlight off) Maximum: 300mA

⑤ **Inputs** The RKD node has two on-board zone inputs. These inputs are monitored using dual E.O.L. supervision as wired below.



description	value	zone status
OPEN	4400	Zone open
CLOSED	2200	Zone closed
DISCON	30 000	Zone disconnected
SHORT	< 1400	Zone shorted
DC SUBS	Variable	DC Voltage substitution

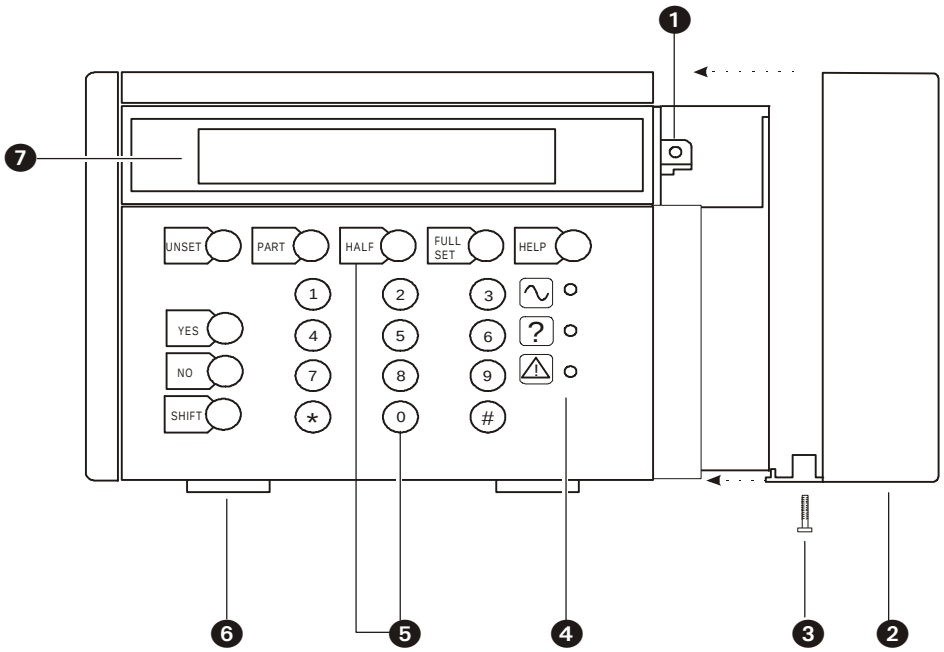
⑥ **Output** The RKD has one on-board 1Amp single pole changeover relay, which can be assigned to any of the system outputs. **[*See page 8-22: Node Configure - Outputs*].**



⑦ **Tampers** The RKD Node monitors both front and back tampers. The front tamper is closed once the terminal block cover is secured.

⑧ **Keys** The keys are used for code entry, setting/arming and unsetting/disarming the system and accessing the menus detailed in the Software section. For further information on keys **[*see page 8-2: Typing text*].**

RKD Node Cabinet



① Securing hole for front of RKD

② Terminal block cover

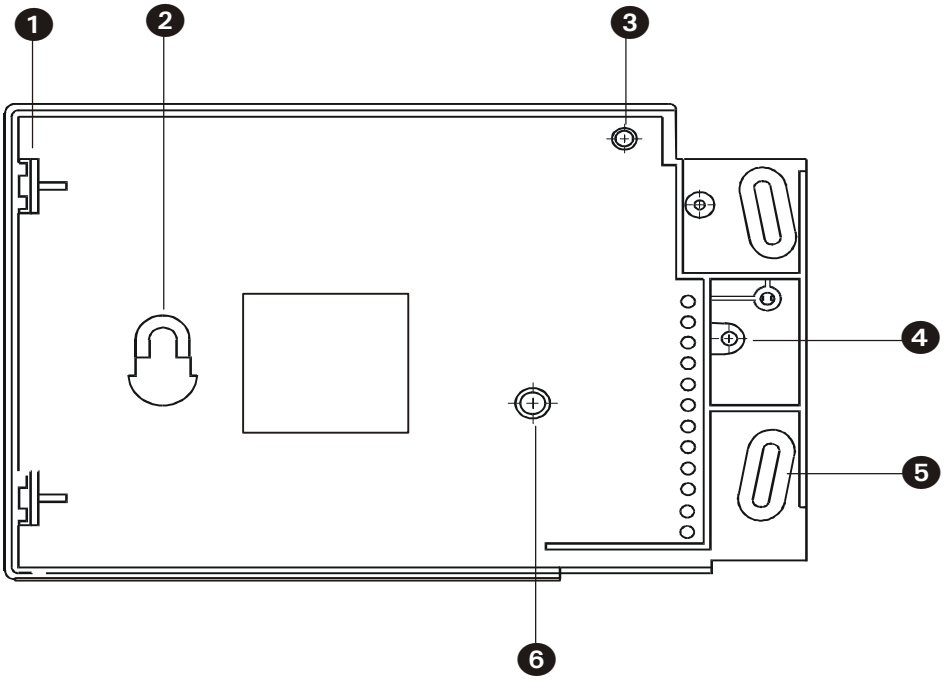
③ Cover securing screw

④ Status LED holes

⑤ Numeric and function keys

⑥ Lid cover clips

⑦ Display window



① P.C.B. securing clips

② Mounting keyhole

③ P.C.B. locating pillar

④ Patress box mounting hole

⑤ Mounting hole

⑥ P.C.B. securing screw

Additional Information

Private mode

The private mode feature prevents two separate users from attempting to configure the system at the same time.

When one system RKD is in use, an attempt to key in at any other system RKD will produce the following message: *System Busy ... Please Wait.*

The keypad displays this message until the user at the other keypad is finished, and then returns to normal operations

Text Entry

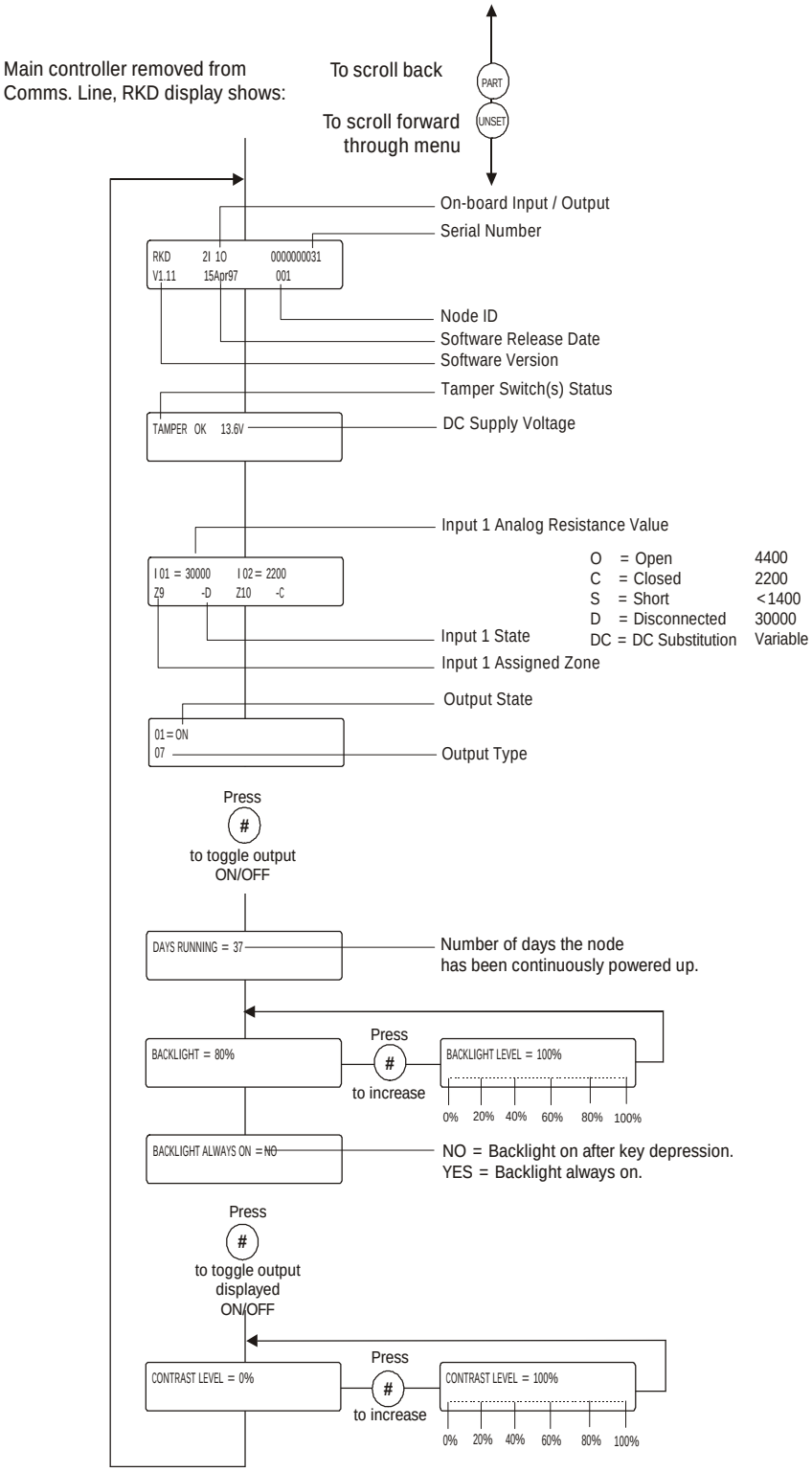
The orientation of the cursor governs which character is selected. Use the Shift key to rotate the cursor for character selection and press Enter when text entry is complete. **[*See page 8-2: Typing text*].**

Diagnostic Menu; RKD

In addition to displaying system menus for programming and so on, the keypad has its own diagnostic menu. Access to this diagnostic menu is available when a keypad node is isolated from the Ringnet (communications lines removed).

Alternatively, the same node information can be accessed through the Node Configure menu, submenu Monitor. **[See page 8-18: Node Configure - Nodes - Information - Monitor]**

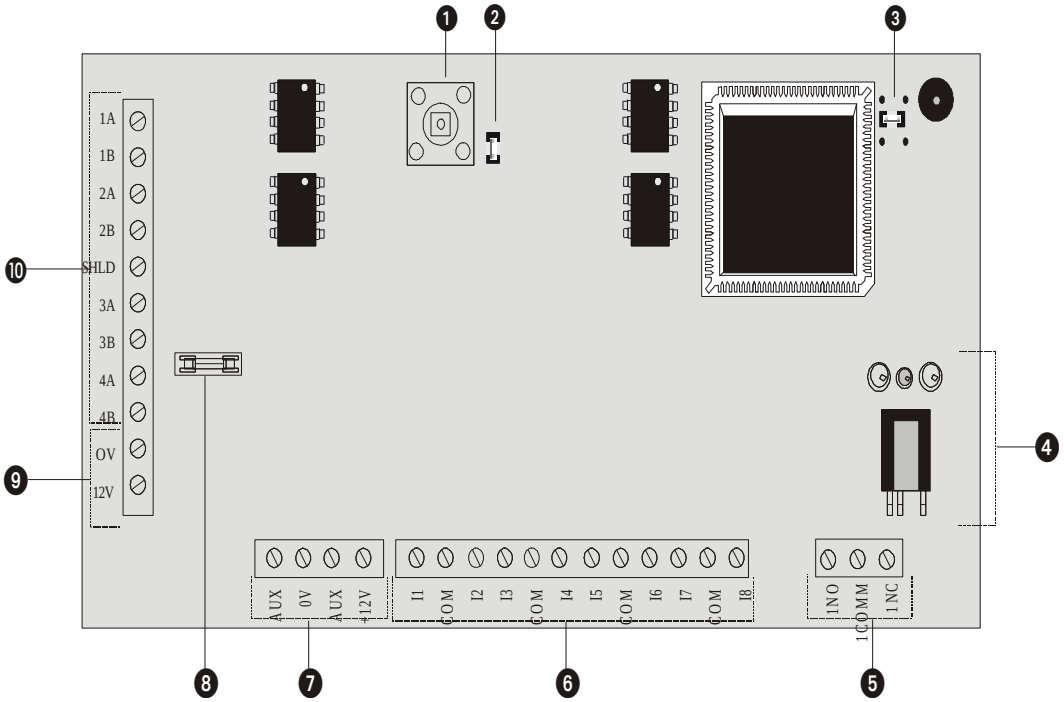
The menu provides you with data on the keypad's current configuration and allows locally related operations to be performed – such as adjusting the display parameters and switching the on-board output.



8 Input / 1 Output (I/O) Node

Description

The 8 Input/1 Output Node provides 8 input connections for alarm monitoring and 1 unassigned relay output. The inputs, if fitted with end of line resistors, will be initalised onto the system as part of the 200 alarm zones. The output can be assigned to any of the 255 output types available on the system.



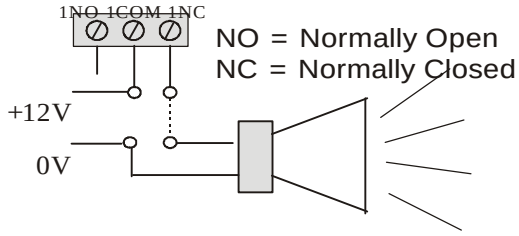
① **Front tamper** The node monitors for front tamper.

② **Front tamper link** To override monitoring of front tamper.

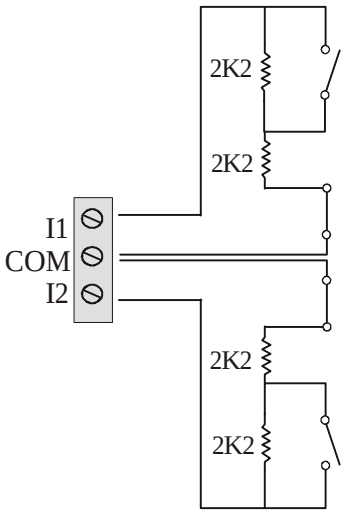
③ **Back tamper and link (for future use)** The node monitors for back tamper and the link is used to override monitoring of back tamper.

④ **Infra-red communications interface** Used for Hand-Held Terminal (HHT) communications **[*See page 5-12: 8 I/O Diagnostic Menu*]**.

⑤ **Output** The 8I/O has one on-board 1Amp single pole changeover relay, which can be assigned to any of the system outputs. **[*See page 8-22: Node Configure - Outputs*].**



⑥ **Inputs** The 8 I/O node has eight on-board zone inputs. These inputs are monitored using dual E.O.L. supervision as wired below.



description	value	zone status
OPEN	4400	Zone open
CLOSED	2200	Zone closed
DISCON	30 000	Zone disconnected
SHORT	< 1400	Zone shorted
DC SUBS	Variable	DC Voltage substitution

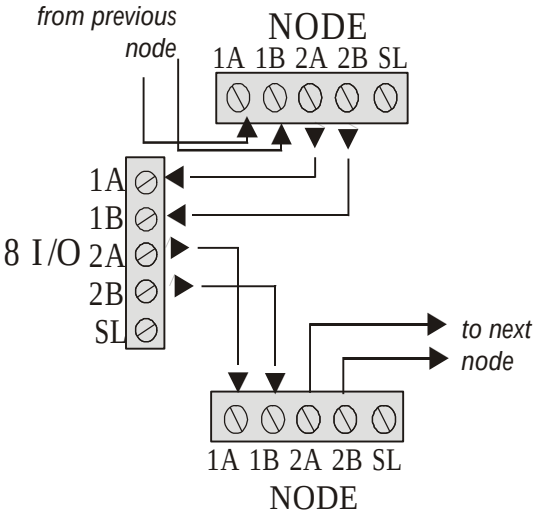
⑦ **Auxiliary supply(12V)** Used to power auxiliary devices to a maximum of 250mA.

⑧ **Auxiliary fuse** 250mA Quick Blow.

⑨ **Power supply and current consumption** The 8 I/O node requires 12VDC which should be supplied directly from the Controller PSU or form a remote PSU. Current Consumption -Quiescent State: 100mA Maximum: 200mA

⑩ **Ringnet Communications** Connect the Ringnet cable to the four terminals 1A to 2B.

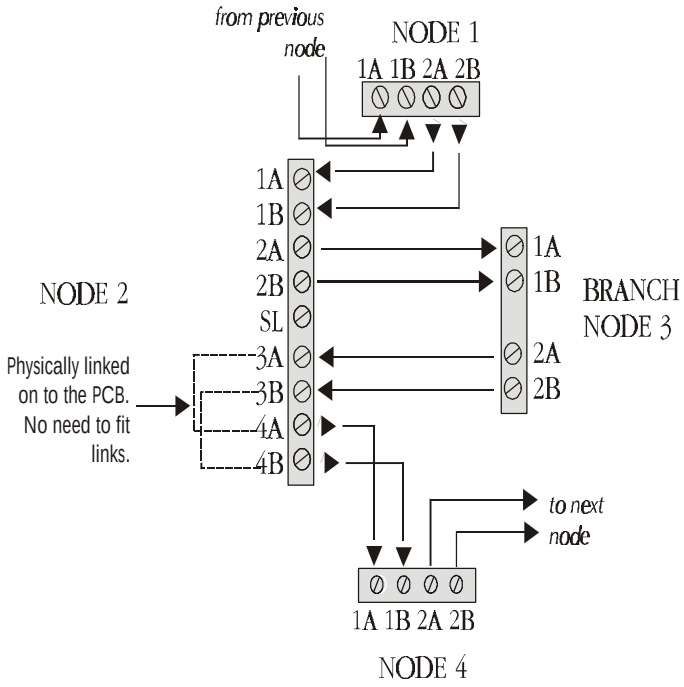
These terminals are used for connecting the 8I/O node onto the ringnet (see connection diagram and cable type table below).



cable type	maximum distance between nodes
Standard alarm cable	200m
Belden 9502	500m
UTP Category: 5 (solid core)	1000m
Belden 9829	1000m

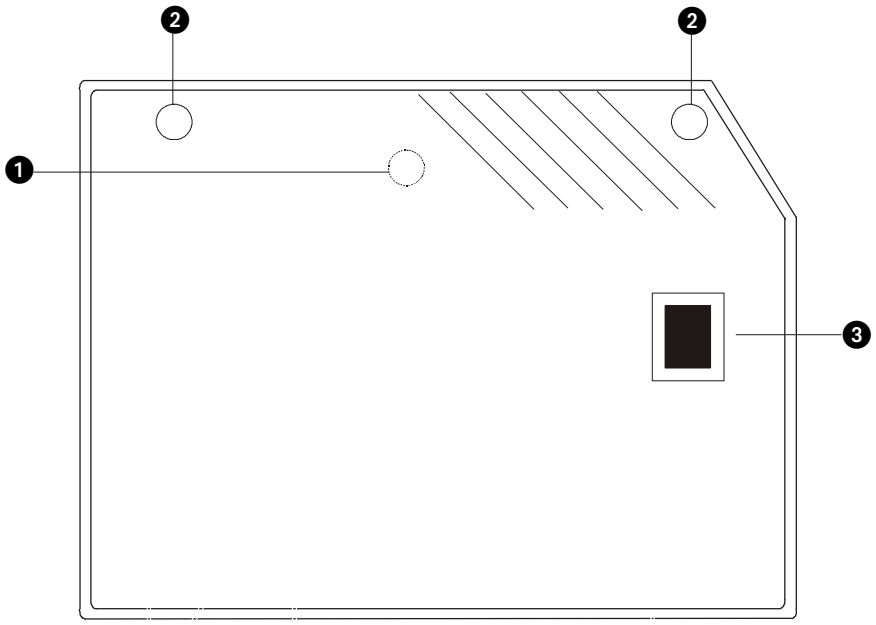
Branch node

A node may be wired as a branch node using terminals 3A, 3B, 4A and 4B as shown in the diagram below. This configuration is valid for the ringnet. Check the cable distances between the nodes, ensuring that the cable distance between node 3 and node 4 is within the distances specified in the Cable type table on the previous page.



Node Cabinet

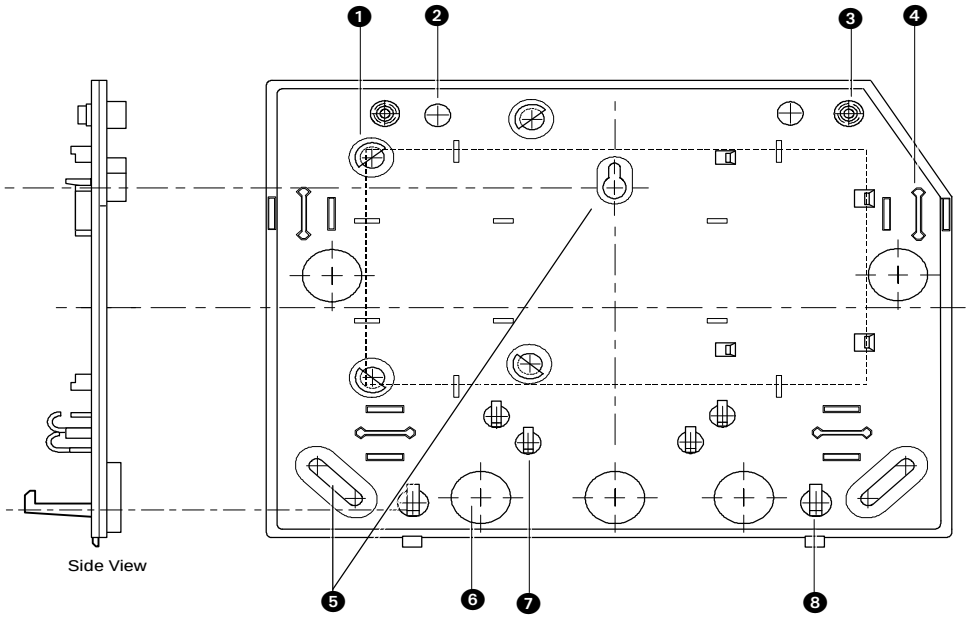
This cabinet is used to house the 8 I/O, 6 O, HUA and Encryption Nodes.



① Front Tamper Guide

② Cover Fixing Screws

③ Infra-red Window



① Node anchor points

② Wall spacers

③ Cover anchor points

④ Cable grips

⑤ Mounting holes

⑥ Cable entry holes

⑦ Cable ties

⑧ Cover hooks

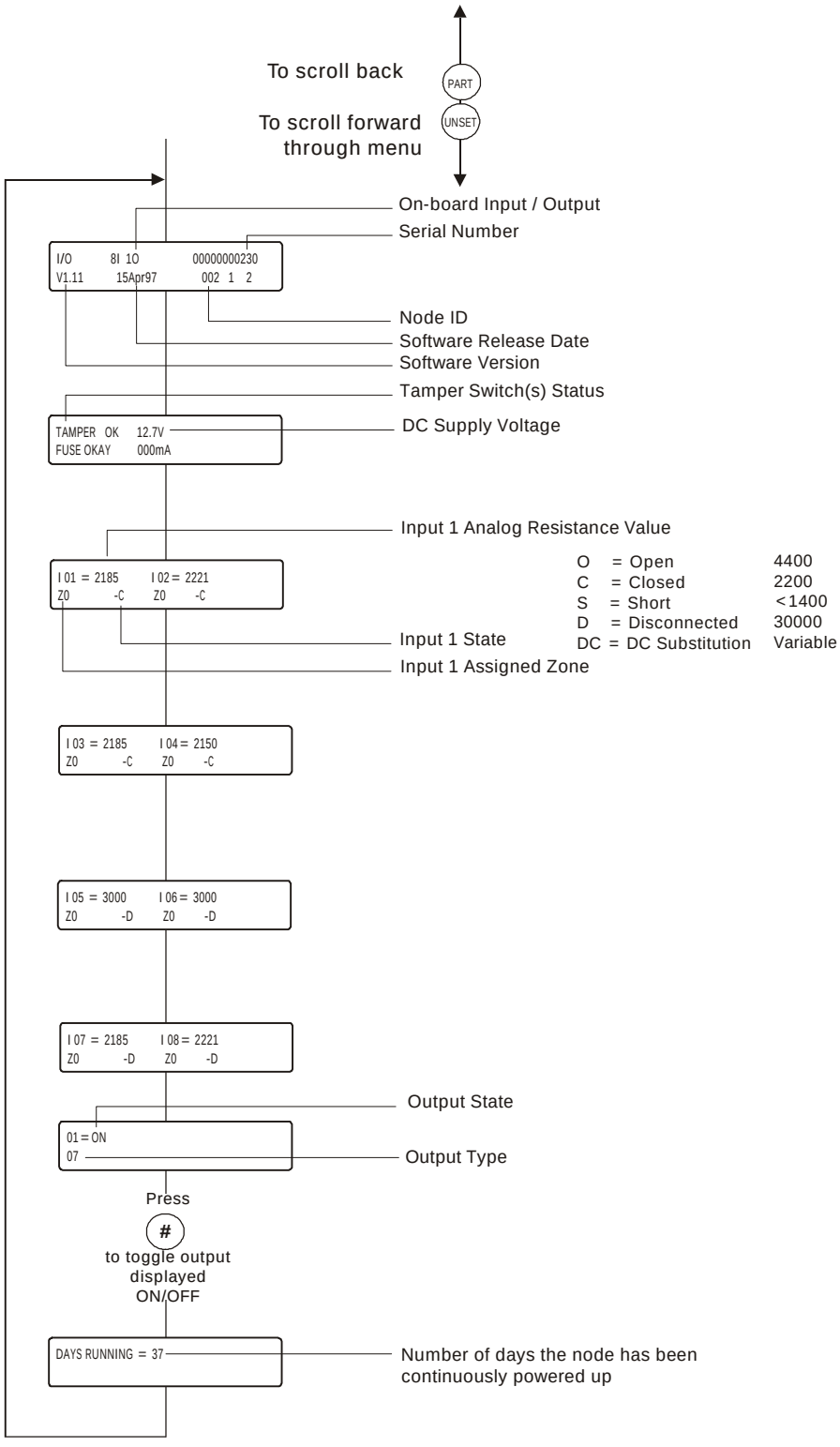
Diagnostic Menu; 8I/O Node

The menu provides you with data on the 8 I/O node's current configuration and allows monitoring of node and PSU parameters. This information includes inputs, outputs, fuse and tamper status.

It can be utilised to interrogate the status of the node without having to remove the cabinet lid, thus avoiding interfering with cables and the need to use a voltmeter for measuring node voltage and currents.

It can be accessed using the HHT infra-red. Alternatively the same node information can be accessed through the Node Configure menu, submenu Monitor. **[See page 8-18: Node Configure - Nodes - Information - Monitor]**

Note *For further information on HHT menus* ***see - PERIPHERAL DEVICES SECTION:*** *HAND-HELD TERMINAL CHAPTER 10.*

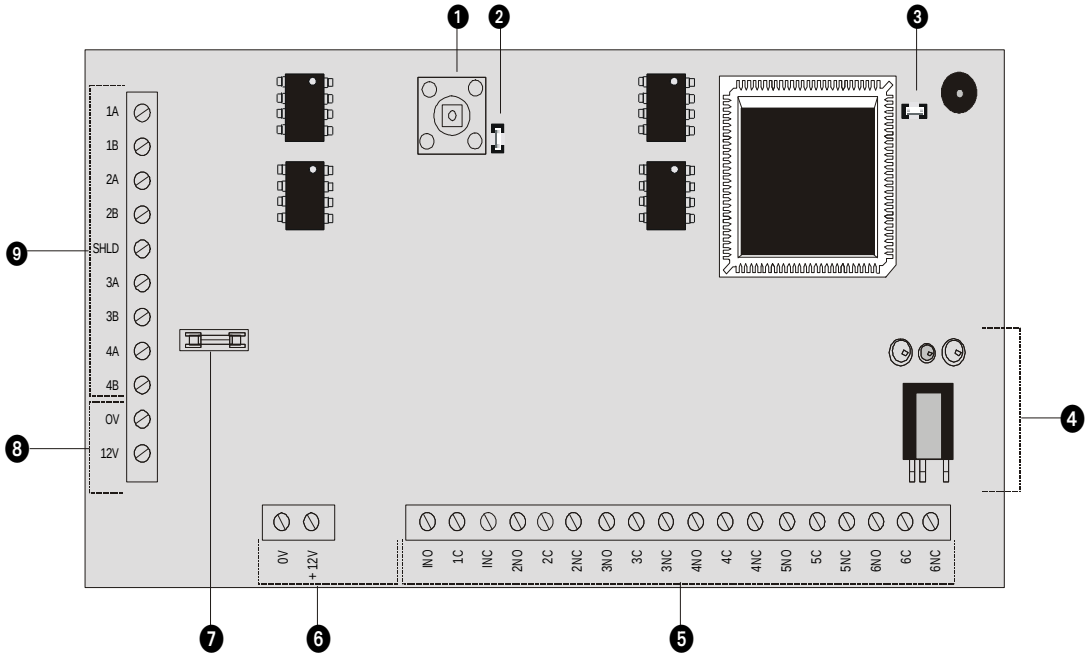


6 OUTPUT NODE

Description

Each 6 Output node provides six extra relay outputs for the 3GS system. These can be assigned to any of the 255 output types available. The node is identical in tamper, IR and LED functions, and node enclosure to the 8 Input/1 Output node.

The same output number can be assigned to more than one output, in which case several outputs will respond to a 3GS software command in the same way. For more details on assigning outputs and output types, see Software section.



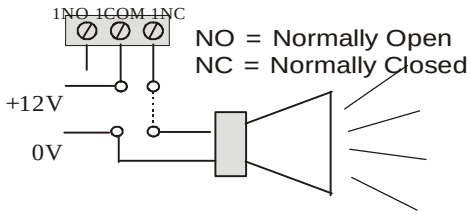
① **Front tamper** The node monitors for front tamper.

② **Front tamper link** Use this link to override monitoring of front tamper.

③ **Back tamper and link (for future use)** The node monitors for back tamper and the link is used to override monitoring of back tamper.

④ **Infra-red communications interface** Used for Hand-Held Terminal (HHT) communications. **[*See page 5-15: 6 Output Diagnostic Menu*]**.

⑤ **Outputs** The 6 O Node has six on-board 1Amp single pole changeover relays, which can be assigned to any of the system outputs. **[*See page 8-22: Node Configure - Outputs*].**



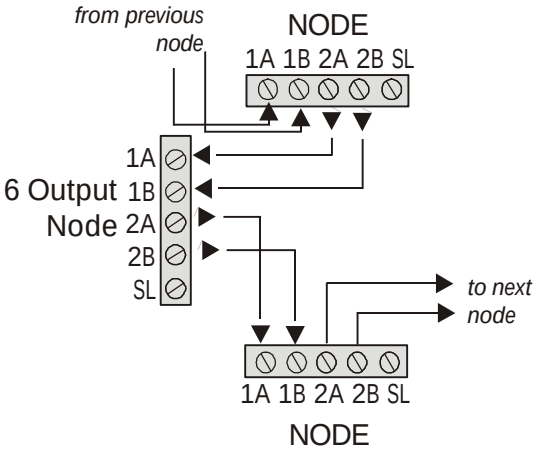
⑥ **Auxiliary supply (12V)** Used to power auxiliary devices to a maximum of 250mA

⑦ **Auxiliary supply fuse** 250mA Quick Blow

⑧ **Power supply and current consumption** The 6 O Node requires 12V DC which should be supplied directly from Controller PSU or from a remote PSU. Current consumption - Quiescent: 100mA Maximum: 200mA

⑨ **Ringnet Communications** Connect the Ringnet cable to the four terminals 1A to 2B.

These terminals are used for connecting the 6 O node onto the ringnet (see connection diagram and cable type table below).



cable type	maximum distance between nodes
Standard alarm cable	200m
Belden 9502	500m
UTP Category: 5 solid core	1000m
Belden 9829	1000m

Note ***[See page 5-10: 8 I/O Node, branch diagram in the ringnet section].***

Node Cabinet

This node has the same cabinet as the 8 Input/Output Node. (See previous section)

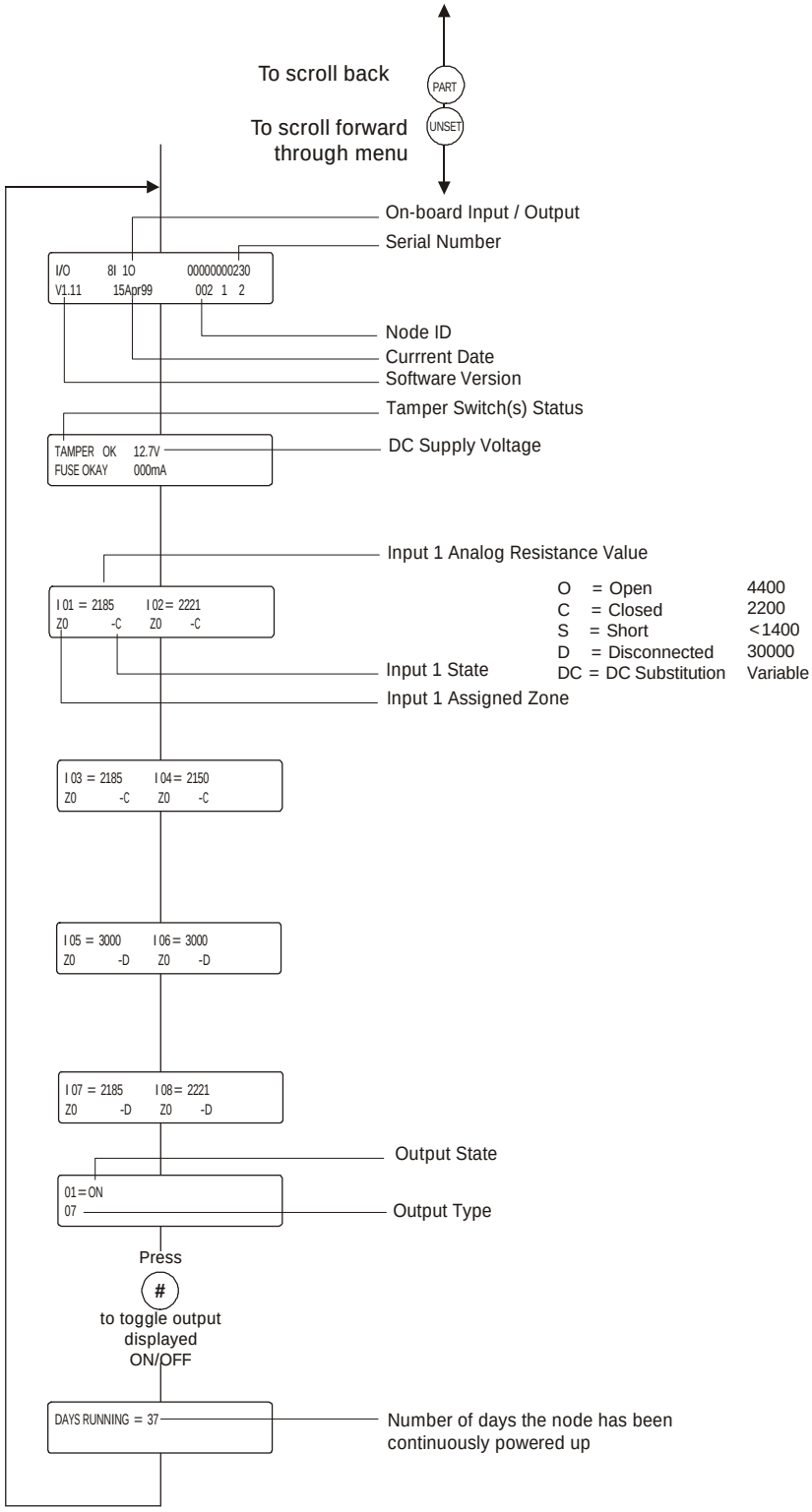
Diagnostic Menu; 6 Output Node

The menu provides you with data on the 6 Output node's current configuration and allows monitoring of node and PSU parameters. This information includes inputs, outputs, fuse and tamper status.

It can be utilised to interrogate the status of the node without having to remove the cabinet lid, thus avoiding interfering with cables and the need to use a voltmeter for measuring node voltage and currents.

It can be accessed using the HHT infra-red. Alternatively the same node information can be accessed through the Node Configure menu, submenu Monitor. **[See page 8-18: Node Configure - Nodes - Information - Monitor]**

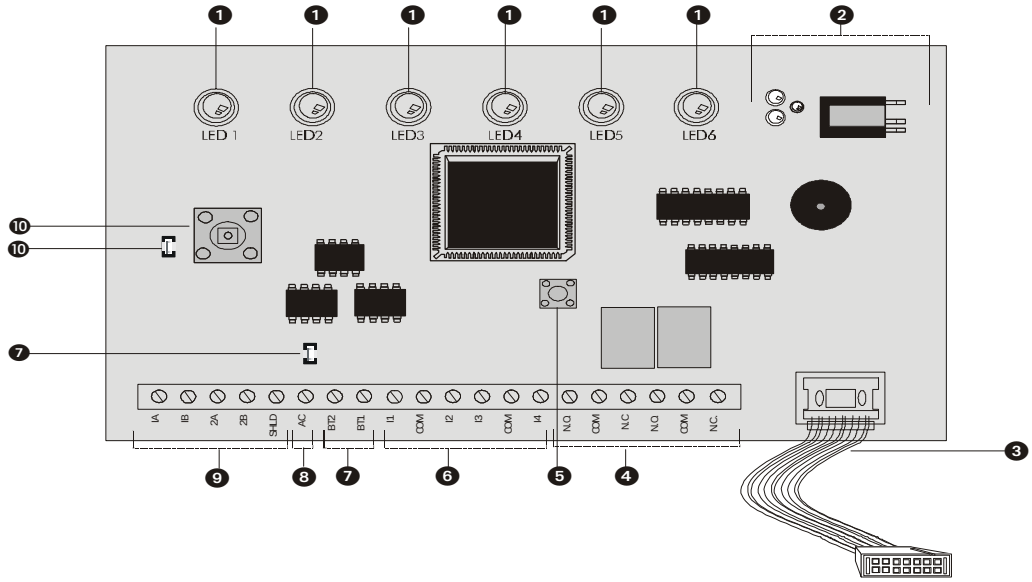
Note *For further information on HHT menus* ***see - PERIPHERAL DEVICES SECTION:*** *HAND-HELD TERMINAL CHAPTER 10.*



INTELLIPOWER NODE

Description

The 3GS IntelliPower node allows monitoring of distributed power supply units anywhere on the 3GS Ringnet. The IntelliPower node receives power and data directly from the PSU via a flat ribbon cable and interfaces with the 3GS Controller via the 3GS Ringnet. The node monitors the PSU for over-current, fuse fail, mains/AC fail, PSU fail, Communications fail and battery problems. It also has four alarm inputs and two relay outputs.



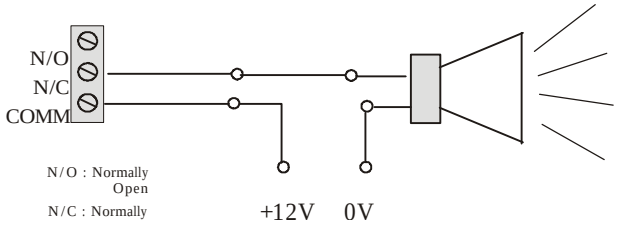
① **LEDs** Any changes in status are indicated immediately by one of the 6 real-time LEDs and are reported back to the Controller via the Ringnet. Status changes are then displayed as alert messages, showing the node ID and the nature of the status alerts.:

- LED1: Mains/AC
- LED2: Fuse fail
- LED3: PSU fail
- LED4: Overcurrent
- LED5: Battery problem
- LED6: Comms fail

② **Infra-red communications interface** Used for Hand-Held Terminal (HHT) communications (see *Diagnostic* menu for more details).

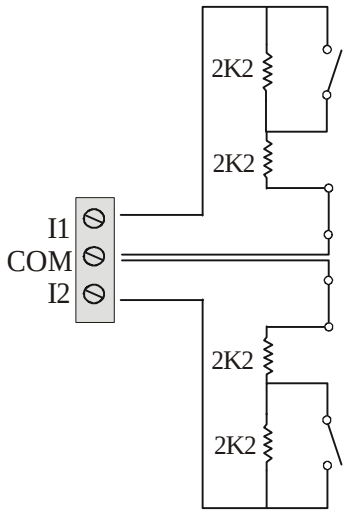
③ **Power supply and current consumption** This node is powered using the PSU connector supplied, which is connected to any of the range of Europlex IntelliPower supplies. Current Consumption -Quiescent State: 100mA Maximum: 150mA.

④ **Outputs** The IntelliPower node has two on-board 1Amp single pole changeover relayS, which can be assigned to any of the system outputs. **[*See page 8-22: Node Configure - Outputs*].**



⑤ **Kick-Start button** Starts the system from the battery. This turns on the charge relay, which connects the battery to the output terminals.

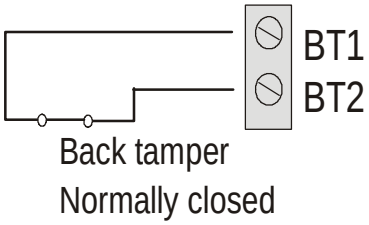
① **Inputs** The IntelliPower node has four on-board zone inputs. These inputs are monitored using dual E.O.L.



description	value	zone status
OPEN	4400	Zone open
CLOSED	2200	Zone closed
DISCON	30 000	Zone disconnected
SHORT	< 1400	Zone shorted
DC SUBS	Variable	DC Voltage substitution

supervision as wired overleaf.

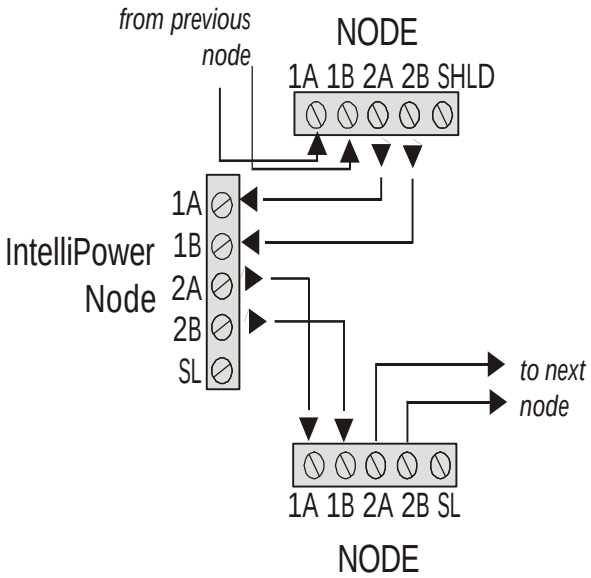
⑦ **Back tamper and link (for future use)** Remove the back tamper link if you are connecting a back tamper switch to BT1 and BT2.



⑧ **AC Output terminal** Provides clock output signal 50Hz or 60Hz, depending on mains frequency of PSU, where a control panel is powered solely from a DC source, i.e. no mains connected. The output signal ensures the panel keeps time accurately.

⑨ **Ringnet Communications** Connect the Ringnet cable to the four terminals 1A to 2B.

These terminals are used for connecting the IntelliPower node onto the ringnet (see connection diagram and cable type table below).



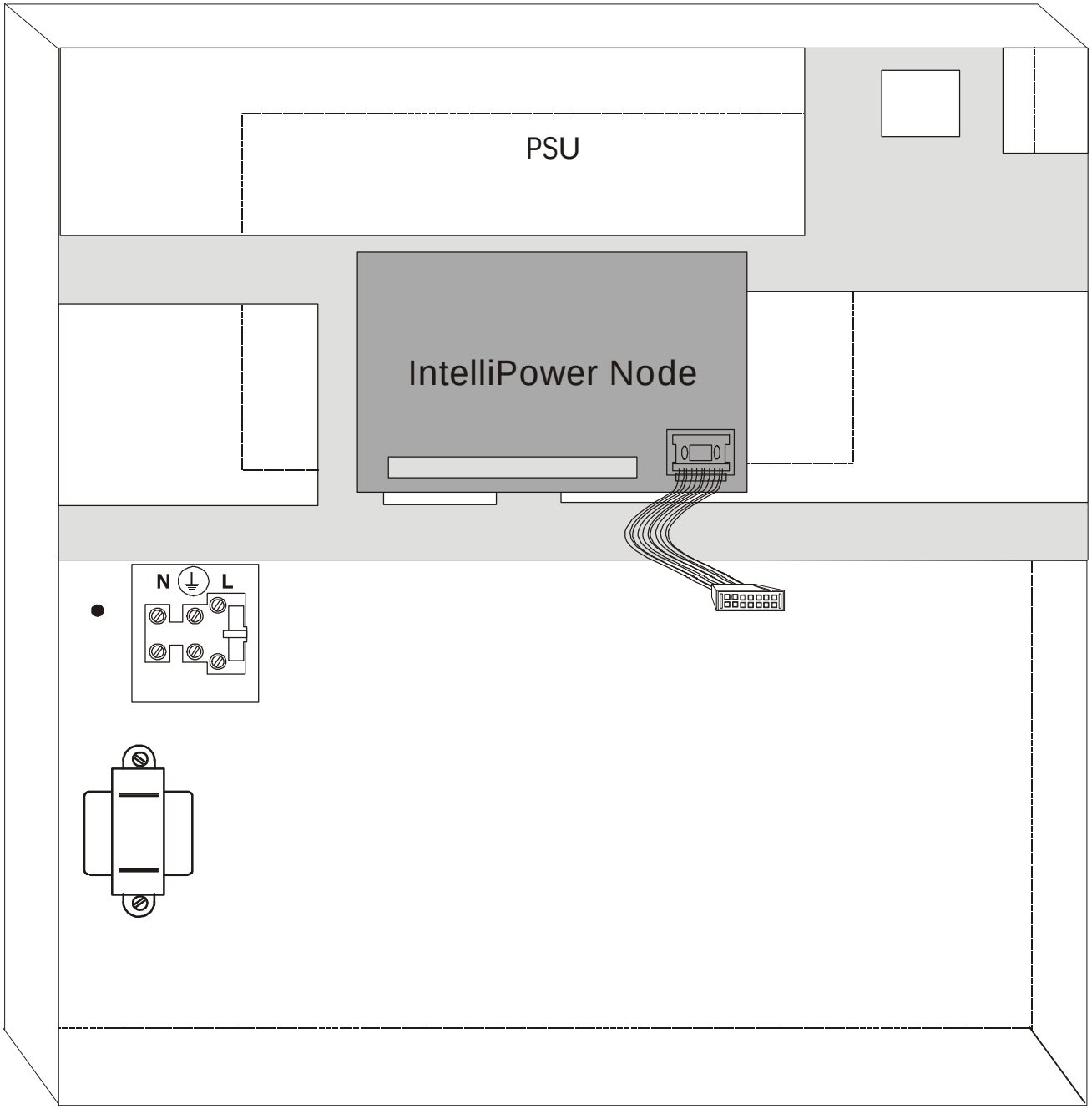
cable type	maximum distance between nodes
Standard alarm cable	200m
Belden 9502	500m
UTP Category: 5 (solid core)	1000m
Belden 9829	1000m

⑩ **Front tamper and link** Remove the front tamper link jumper to activate the front tamper switch.

IntelliPower Node cabinet

Note *This cabinet comes in two sizes:*

- *E - CA124501 3GS 3Amp Monitor Node PSU Cabinet (15/17) AH*
- *E - CA124601 3GS 8Amp Monitor Node PSU Cabinet (24/48) AH*



Additional Information

Battery charging via PSU

Battery charging is controlled by the IntelliPower node. When the battery charge relay closes, the yellow LED illuminates and the battery is charged at a voltage that is temperature compensated. To enable temperature compensation, a thermistor with flying-lead connection is provided. It is important that the thermistor senses the temperature of the battery only (and not other devices).

Therefore, if a single battery is in use, place the thermistor on top of the battery. If using two batteries, place the thermistor between them. This provides a continual battery charge (4 and 8Amp PSU).

Battery test

The battery test is carried out at the Controller and at each IntelliPower node by simply unsetting/disarming the system.

Deep discharge protection

If mains power fails at any IntelliPower node, that nodes battery back-up is switched on to provide power. A battery can only maintain a supply for a certain duration and if mains/AC power is cut off for a prolonged period, THE battery will eventually discharge itself. In general, lead-acid batteries are damaged in terms of capacity and service life if discharged below the recommended cut-off voltage.

To prevent a battery discharging beyond recovery the IntelliPower node instructs the PSU to disconnect the battery when the battery output voltage reaches 10.5Vdc. When the mains/AC is restored, the battery will be recharged.

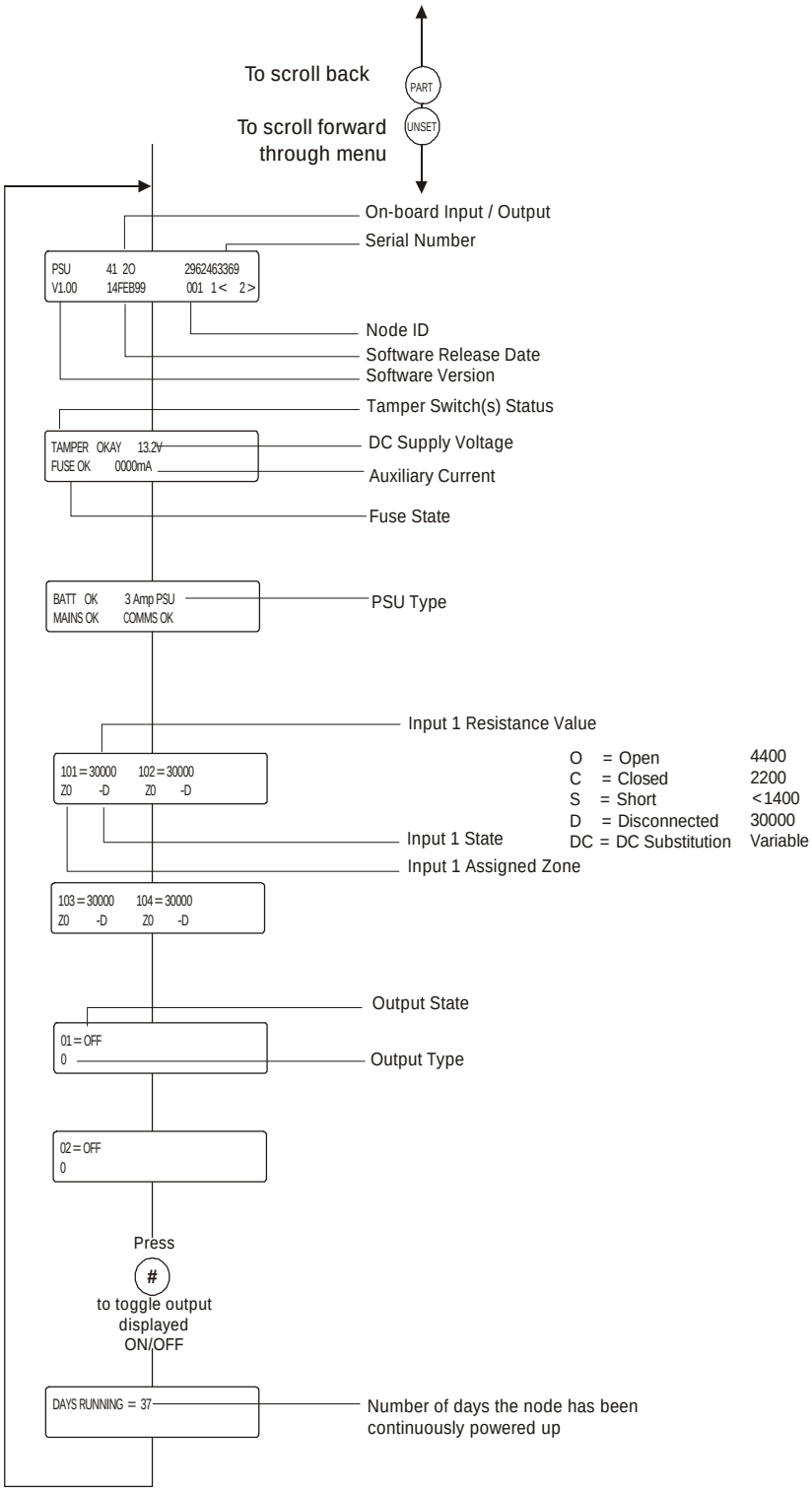
Diagnostic Menu IntelliPower Node

The menu provides you with data on the IntelliPower node's current configuration and allows monitoring of node and PSU parameters. This information includes inputs, outputs, fuse and tamper status.

It can be utilised to interrogate the status of the node without having to remove the cabinet lid, thus avoiding interfering with cables and the need to use a voltmeter for measuring node voltage and currents.

It can be accessed using the HHT infra-red. Alternatively the same node information can be accessed through the Node Configure menu, submenu Monitor. **[See page 8-18: Node Configure - Nodes - Information - Monitor]**

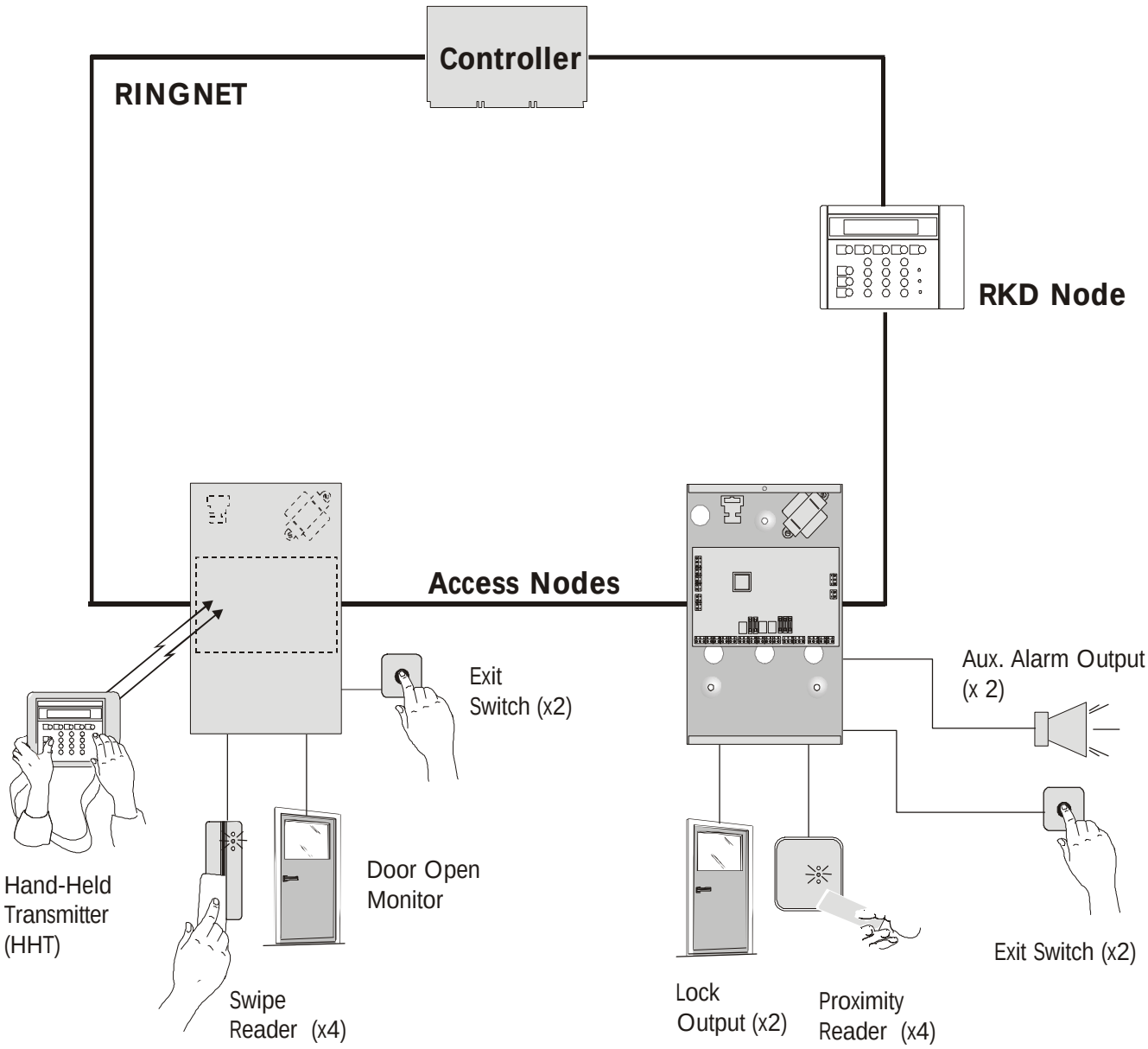
Note *For further information on HHT menus* ***see - PERIPHERAL DEVICES SECTION:*** *HAND-HELD TERMINAL CHAPTER 10.*



ACCESS CONTROL SYSTEM

Overview

To integrate Access Control onto the 3GS, the Access Control node should be wired onto the ringnet as shown below. It can be configured to control two access doors. These doors may be wired with readers on the entry side and either readers or exit switches on the exit side. The doors are monitored for "door forced" and "left open" alarms, as well as integration into the intruder system. Cards presented at the reader may be configured to set/arm and unset/disarm the area/system **[*see page 7-3*: *Access System Overview*].**

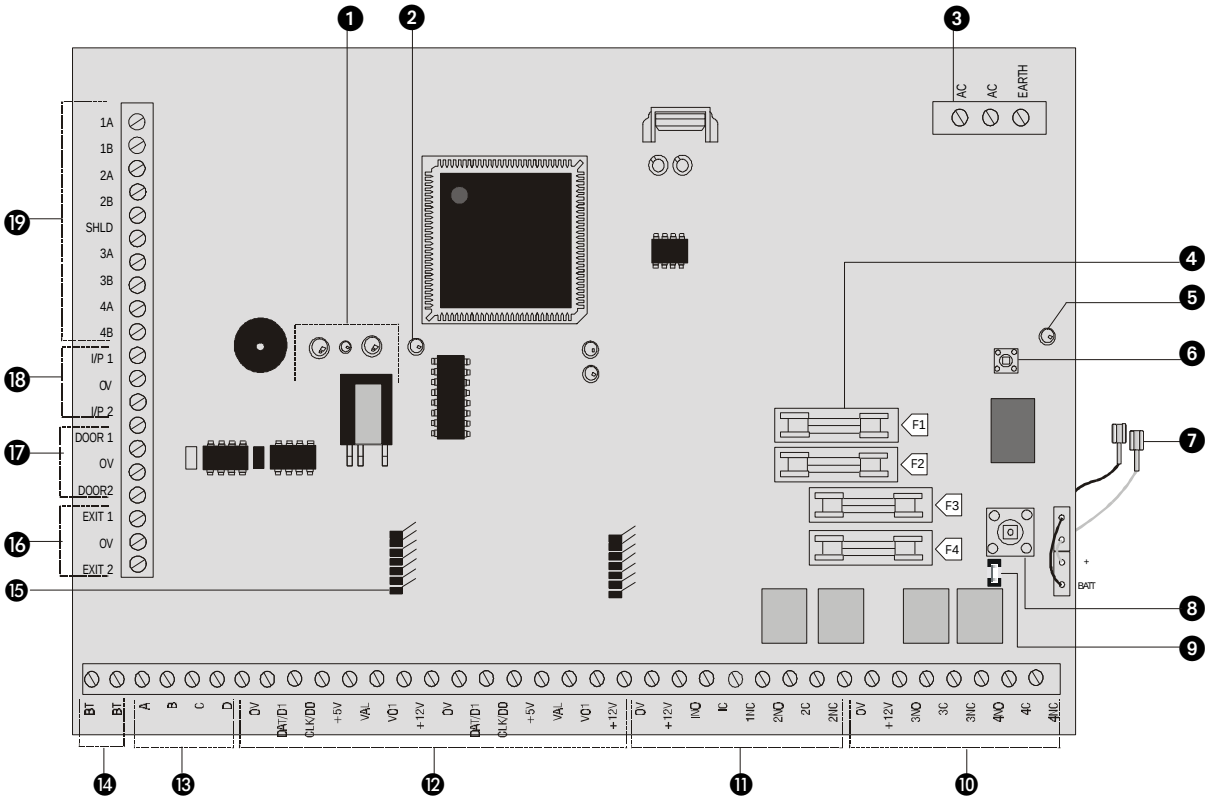


ACCESS CONTROL (ACN) NODE

Description

The 3GS Access Control node provides an interface to control door access on the 3GS. The node is a two door Controller with capacity for four readers (two entry and two exit) and two exit switches. The ACN has its own monitored PSU suitable for powering readers. The reader technology supported is Weigand and Clock and Data, allowing for proximity, swipe, pin and proximity, and pin and swipe readers. It also allows for one BCD pinpad

The ACN monitors two alarm zone inputs, two door inputs and has two system outputs as well as two door outputs. **[*See page 7-3: Access System Overview* for more information on access control].**



① **Infra-red communications interface** Used for Hand-Held Terminal (HHT) communications (see *Diagnostic* menu for more details).

② **Mains/AC LED** Indication of mains/AC status. On = Mains/AC fail.

③ **Power supply and current consumption** The Access Control node is powered from the mains/AC via the transformer supplied (17V AC). Current Consumption -Quiescent State: 100mA Maximum: 150mA.

④ **Fuses**

- F1 Readers - 1 Amp 250V Anti-surge
- F2 Locks - 1 Amp 250V Anti-surge
- F3 Battery - 1 Amp 250V Anti-surge
- F4 12V Auxiliary - 1 Amp 250V Anti-surge

⑤ **Battery LED** Indication of battery status. On = Battery CONNECTED.

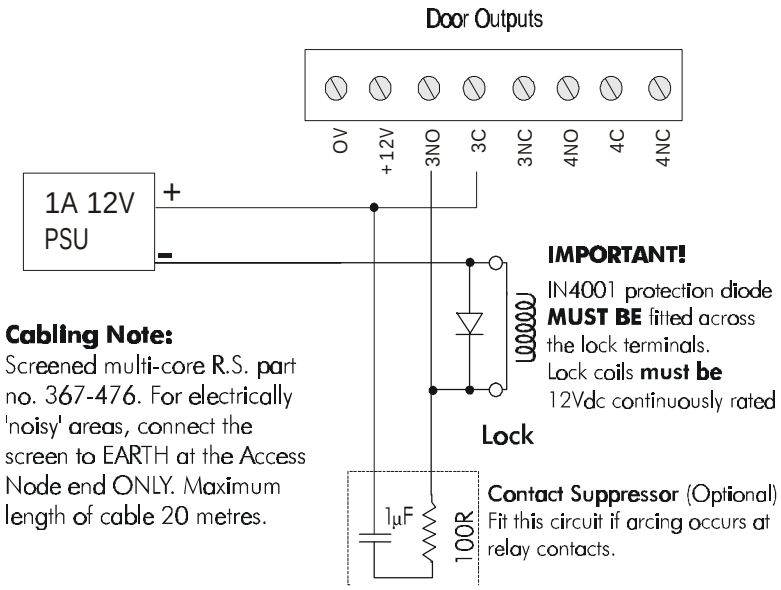
⑥ **Kick-start** Allows powering up of the Access node from the battery.

⑦ **Battery leads** For connection of battery back-up.

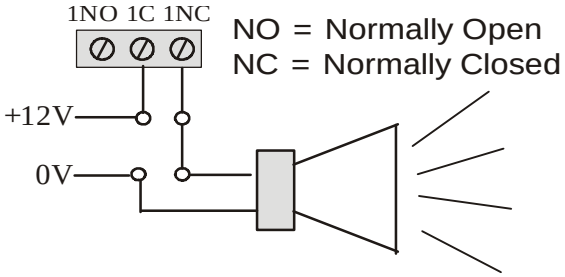
⑧ **Front tamper** For monitoring of lid tamper conditions.

⑨ **Front tamper link** Remove this link to enable front tamper monitoring.

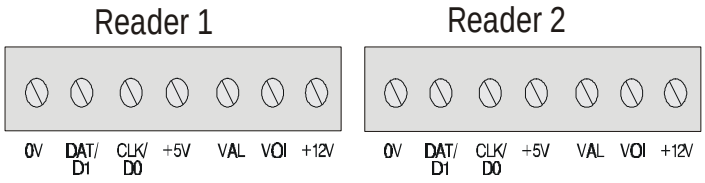
⑩ **Door outputs** These door outputs are used for driving the door locks. Door output 1 is linked to Reader 1. The door locks should be powered from a separate power supply, as shown in diagram below.



⑪ **Outputs** The Access Control node has two on-board 1Amp single pole changeover relays, which can be assigned to any of the system outputs. **[*See page 8-22: Node Configure - Outputs*].**



⑫ **Readers 1 and 2** The access node can be used with a variety of Weigand and Clock & Data readers, including Huges, Motorola, Deister, AXM and Mr sensors.



Connection Details

0V: 0V connection on all readers

DAT/D1: DATA connection for Clock & Data readers

DATA1 connection for Weigand readers

CLK/D0: CLOCK for Clock & Data readers

DATA0 connection for Weigand readers

+5V: +5V power connection

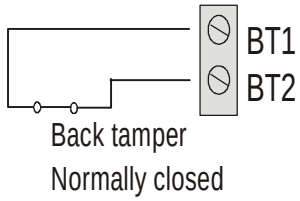
VAL: Valid signal normally used to connect to green or valid LED as reader

VOI: Void signal normally used to connect to red or void LED as reader

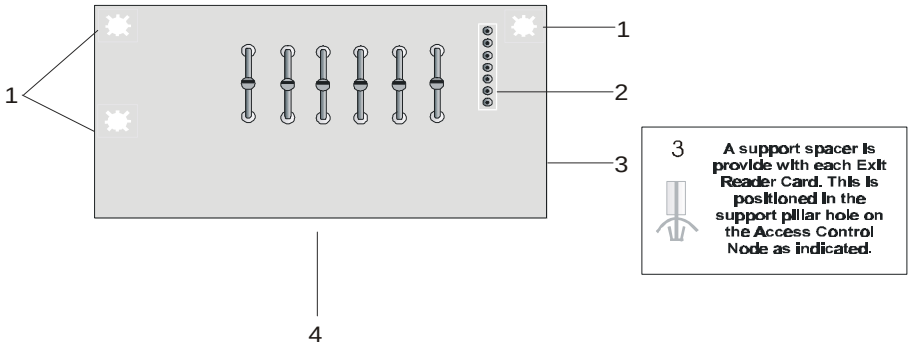
+12V: +12V power connection. Some readers require 12V power instead of 5V power. See manufacturers reader specifications for details on power requirements

⑬ **BCD PINPads** Only one BCD PINPad can be connected to each node.

⑭ **Back Tamper (for future use)** Remove link and connect back tamper switch to terminals marked BT, as shown below.

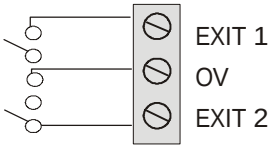


⑮ **Exit Reader Card Connection** An 'exit card reader' must be used in order to install exit readers on the 3GS system. The card must be fitted to the access control node at the exit reader card connection. The reader itself is then connected to the card via the terminal connectors. There are two exit reader connections on each Access Control node, allowing for entry and exit readers on both doors. For more information on the use of exit reader cards. **[*See page 7-3: Access System Overview*].**

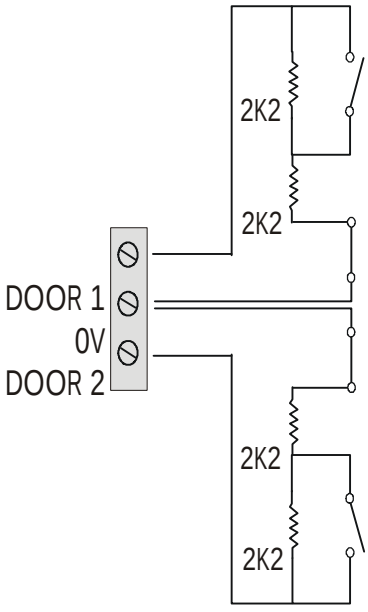


1. Plastic spacers
2. Exit reader card connection
3. Support spacer
4. Reader connection

⑯ **Exit Switch** If required, switches may be fitted that allow the doors to be unlocked.

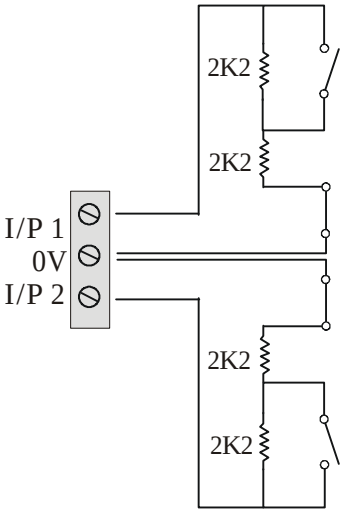


⑰ **Door Inputs** The Access Control node has two on-board door inputs. These door inputs are monitored using dual E.O.L. supervision as wired below. They are used for integration of access control and intruder, by assigning zone types to them. For further information on integration **[*See page 7-3: Access System Overview*].**



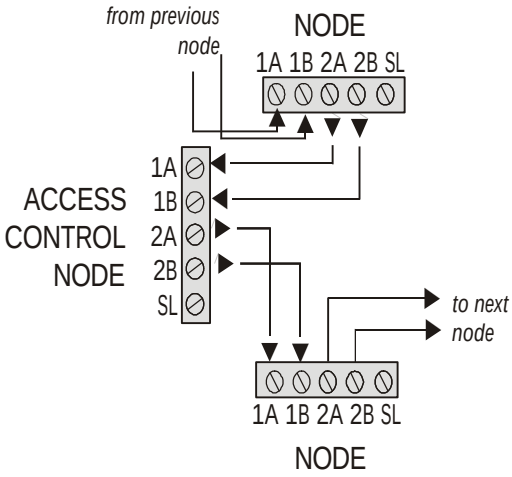
description	value	zone status
OPEN	4400	Zone open
CLOSED	2200	Zone closed
DISCON	30 000	Zone disconnected
SHORT	< 1400	Zone shorted
DC SUBS	Variable	DC Voltage substitution

⑱ **Inputs** The Access Control node has two on-board zone inputs. These inputs are monitored using dual E.O.L. supervision as wired below.



description	value	zone status
OPEN	4400	Zone open
CLOSED	2200	Zone closed
DISCON	30 000	Zone disconnected
SHORT	< 1400	Zone shorted
DC SUBS	Variable	DC Voltage substitution

⑲ **Ringnet** Connect the Ringnet cable to the four terminals 1A to 2B. These terminals are used for connecting the Access Control node onto the ringnet (see connection diagram and cable type table below).

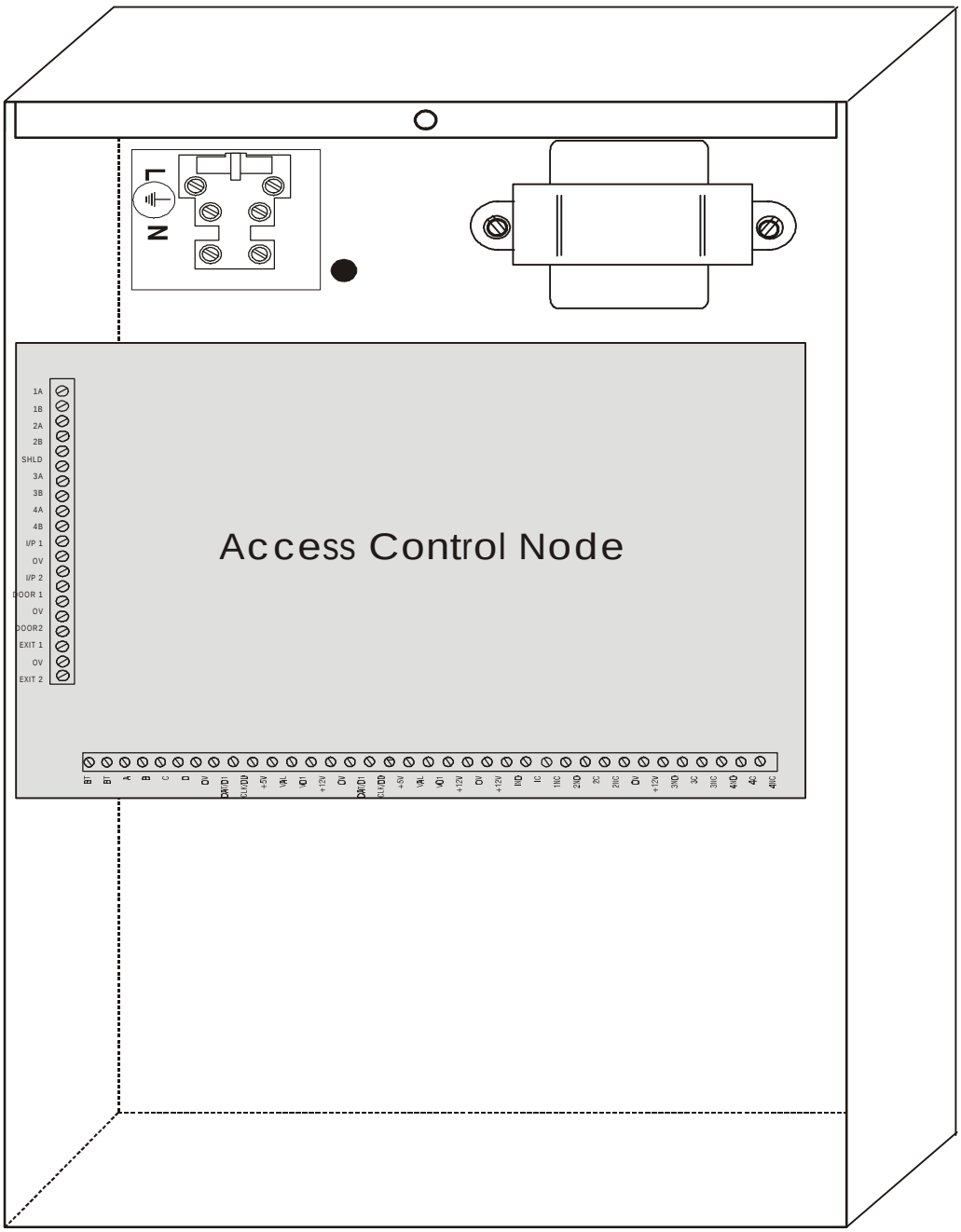


cable type	maximum distance between nodes
Standard alarm cable	200m
Belden 9502	500m
UTP Category: 5 (solid core)	1000m
Belden 9829	1000m

Note **[*See page 5-10: 8I/O Node, branch node diagram in the ringnet section*]**

Access Control Node Cabinet

The Access node is housed in a metal cabinet with transformer (as shown in diagram below).



Additional Information

AC Power and Battery Backup

In order to function as specified, both primary and backup power sources should be connected. Primary power is provided as 17VAC at the 3-way terminal block labelled 'AC'. Cabinet earth must be connected to the terminal labelled 'earth' and to the cabinet lid.

Secondary power is a sealed 12V lead-acid battery of up to 6.5H capacity connected via the stand-by battery leads. Connect battery leads to battery terminals. To power node from battery only, press the battery kickstart switch and hold down for 5 seconds.

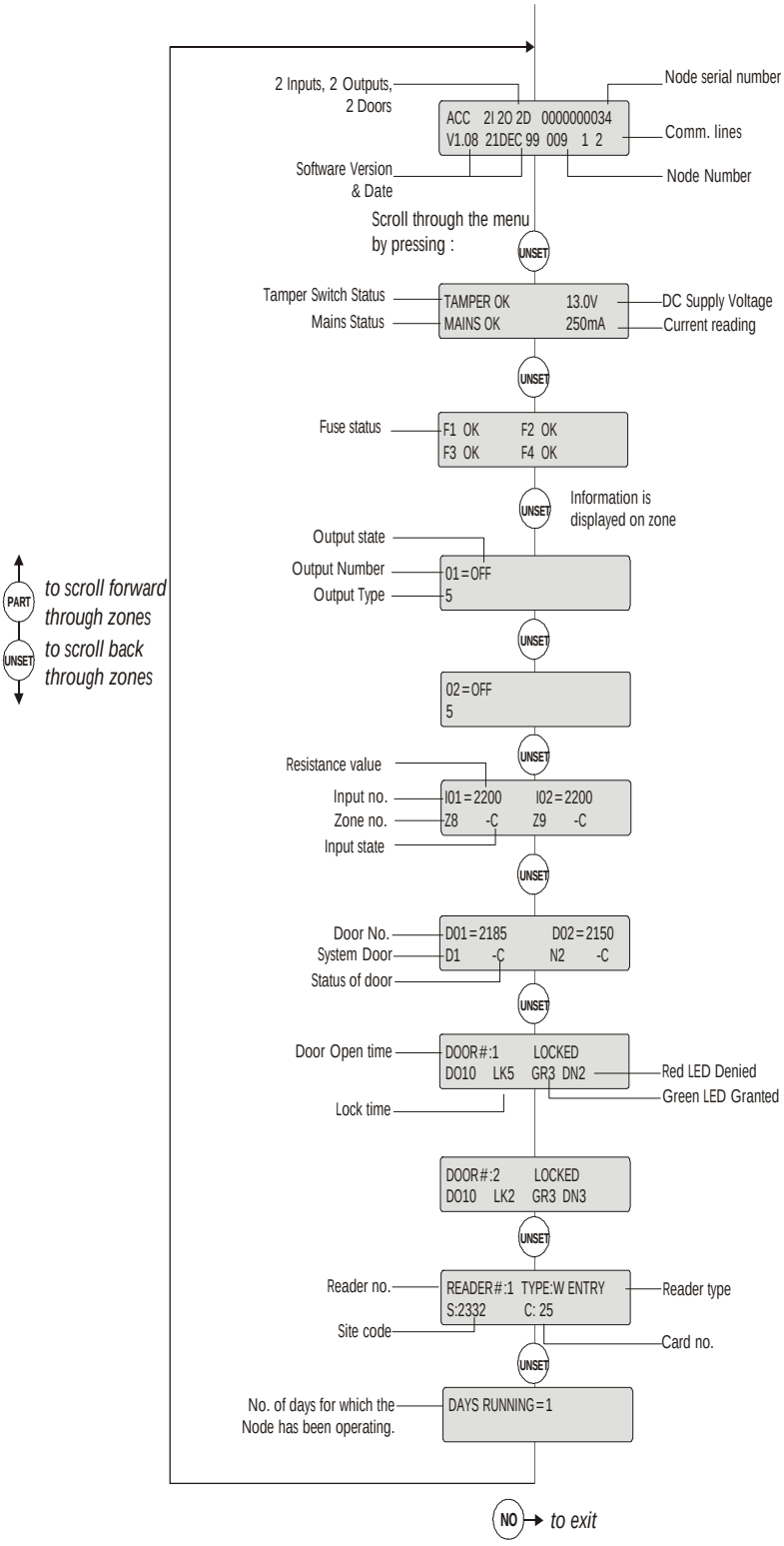
Diagnostic Menu; Access Control Node

The menu provides you with data on the Access node's current configuration and allows monitoring of node and PSU parameters. This information includes inputs, outputs, door inputs, door outputs, cards, fuse and tamper status.

It can be utilised to interrogate the status of the node without having to remove the cabinet lid, thus avoiding interfering with cables and the need to use a voltmeter for measuring node voltage and currents.

It can be accessed using the HHT infra-red. Alternatively the same node information can be accessed through the Node Configure menu, submenu Monitor. **[See page 8-18: Node Configure - Nodes - Information - Monitor]**

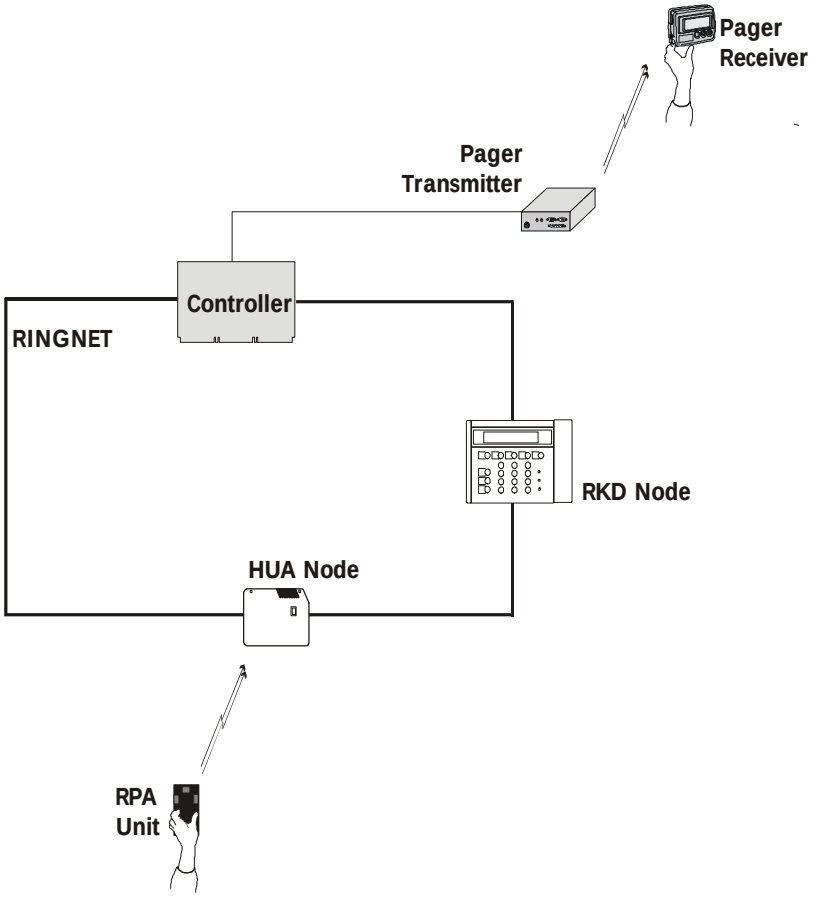
Note *For further information on HHT menus* ***see - PERIPHERAL DEVICES SECTION:*** *HAND-HELD TERMINAL CHAPTER 10.*



RADIO SYSTEM

Overview

The Diagram below shows how to integrate radio onto the 3GS system. The 3GS radio system allows portable panic attack buttons (RPA) to be configured **[*see page 8-24: Radio PA Setup*]** to communicate to the 3GS Hold Up Alarm (HUA) node on the ringnet. In addition the Controller can be configured **[*See page 8-58: Set Data Formats*]** to send messages to a pager transmitter, which in turn transmits to a pager receiver.



System Components

The radio system is comprised of the following components:

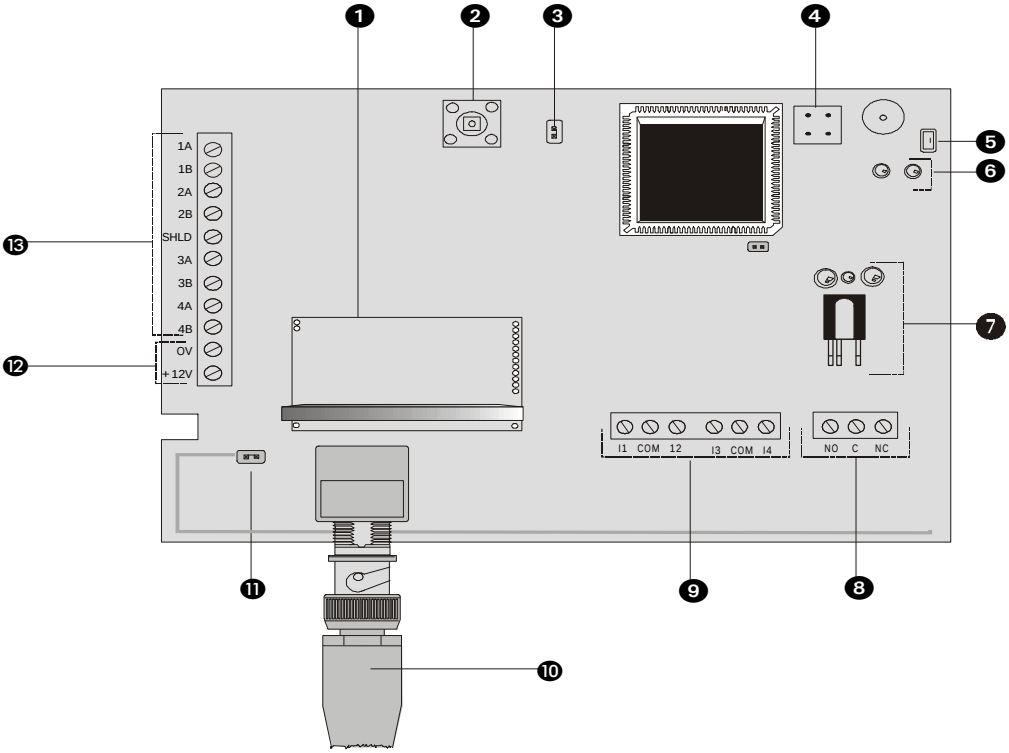
- Hold Up Alarm Node (HUA)
- Radio Panic Attack Unit (RPA)
- Pager Transmitter
- Pager Receiver

These components are detailed in the following pages4.

HOLD-UP ALARM (HUA) NODE

Description

① The Hold-Up Alarm (HUA) node is a radio receiver node and, like all other 3GS nodes, is connected to the 3GS system via the ringnet. The unit will receive radio signals at 418 MHz or 433 MHz frequency, depending on the radio module. This node allows for the integration of radio systems onto the 3GS. For more information on the radio system **[*See page 5-28: Radio System Overview*].**



① **Radio receiver module** This radio receiver module may be 418MHz (UK only) or 433MHz (rest of Europe). This determines the frequency of the receiver node.

② **Front tamper** The node monitors for front tamper.

③ **Front tamper link** Use this link to override monitoring of front tamper.

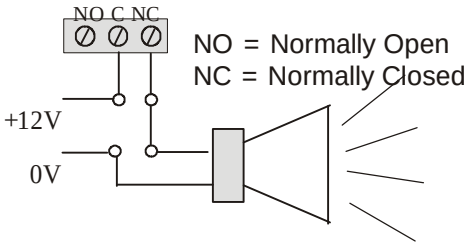
④ **Back tamper** The node monitors for back tamper.

⑤ **Back tamper and link (for future use)** Use this link to override monitoring of back tamper.

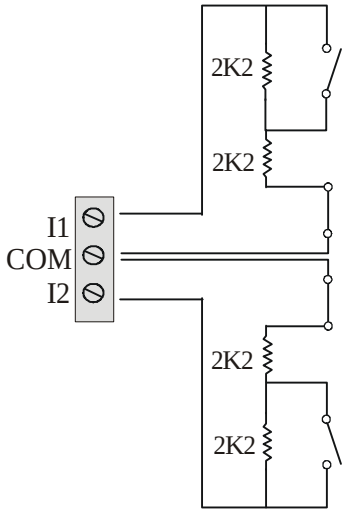
⑥ **Diagnostic LED's** Green LED ON - indicates valid message received. Red LED ON- indicates RF Data error.

⑦ **Infra-red communications interface** Used for Hand-Held Terminal (HHT) communications (see *Diagnostic* menu for more details).

⑧ **Output** The Hold-Up Alarm node has one on-board 1Amp single pole changeover relay, which can be assigned to any of the system outputs. **[*See page 8-22: Node Configure - Outputs*].**



⑨ **Inputs** The HUA node has four on-board zone inputs. These inputs are monitored using dual E.O.L. supervision as wired below.



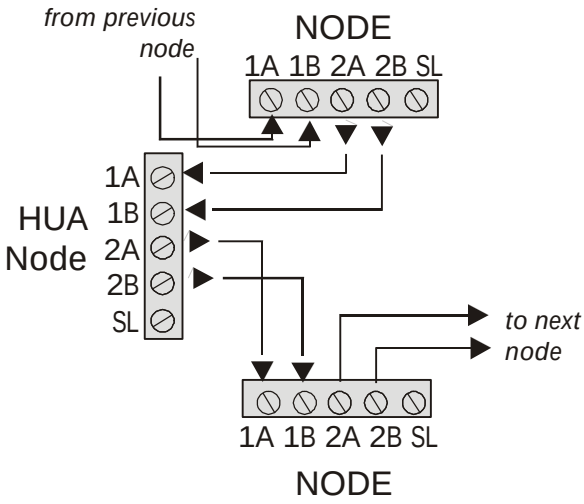
description	value	zone status
OPEN	4400	Zone open
CLOSED	2200	Zone closed
DISCON	30 000	Zone disconnected
SHORT	< 1400	Zone shorted
DC SUBS	Variable	DC Voltage substitution

⑩ **External BNC Antenna** This antenna should be connected to the BNC connector for optimum performance.

⑪ **On-board antenna link** When the jumper is across this link as shown, the on-board 1/4 wave whip antenna is utilised. On the BNC external antenna node this jumper should be removed.

⑫ **Power supply and current consumption** Current Consumption -Quiescent State: 100mA Maximum: 200mA.

⑬ **Ringnet communications** Nodes should be wired in a ring configuration as shown. Standard alarm cable can be used, however greater distances between nodes can be achieved if a twisted pair cable such as Belden 9829 is used (see table B). The maximum permissible distance between nodes is 1Km (using Belden 9829). The interface uses RS485 in a ring topology. The main Controller therefore has two RS485 ports and completes the ring connection. (See connection diagram and cable type table below).



cable type	maximum distance between nodes
Standard alarm cable	200m
Belden 9502	500m
UTP Category: 5 (solid core)	1000m
Belden 9829	1000m

Node Cabinet

This node has the same cabinet as the 8 Input/Output Node. (See previous section)

Additional Information

Approved methods for the optimisation of RPA performance

1. Fit an external antenna onto the HUA node if not already fitted.
2. Move the HUA node to a location where the signal strength is maximised as described in the RPA installation test procedure below.
3. If the movement of the HUA node is not possible attach the antenna to the HUA node via a 50 Ohm coaxial cable <10m in length and locate the antenna at the point of maximum signal strength. This must be verified with the test equipment.
4. In cases where the above solutions are unsatisfactory another HUA node will have to be fitted to provide adequate coverage on site. Steps 1 - 3 can be followed to optimise the node performance if required.

418 MHz RPA installation test procedure

Due to the vagaries of radio transmission, direct unit to unit comparison will give an unacceptably wide range of performance values and cannot be used as a guideline for site installation. It is suggested that for new and retrofit installations a test RPA is provided which provides output at the lower range and a modified HUA test node, along with a Hand Held Terminal (HHT), are used to ensure that adequate coverage is provided on each site.

Test method

- Locate the test node at the required location of the HUA node.
- Setup the HHT to monitor the RPA signal strength.
- Try the test RPA unit at the test node to ensure correct operation and full signal strength.
- Remove the test RPA to the area to be tested and perform the test transmissions.
- Ensure that the signal strength for each test is a pass value (>40%) on the HHT.
- If a particular location fails to produce the pass signal then the test node must be moved closer to the test point or to a location where there are less obstructions on the path to the test point. Once the test node has been setup at the new location all the previous tests have to be redone to ensure they all still provide a pass signal value.
- The HUA node must then be mounted at the exact position of the test node to provide equal performance.
- The ringnet cables must be routed away from the antenna when installing the node.
- **Test all RPA's** that are to be assigned to the site at the test locations as per the test RPA unit and install them onto the system as per the System Integration Manual.

It is recommended that the HUA node be mounted away from computers and large metal masses if possible, (i.e. cable trays, filing cabinets, and metal shelves), as these objects tend to reduce the sensitivity of the receiver within the HUA node.

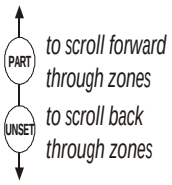
Diagnostic Menu; Hold-Up Alarm Node

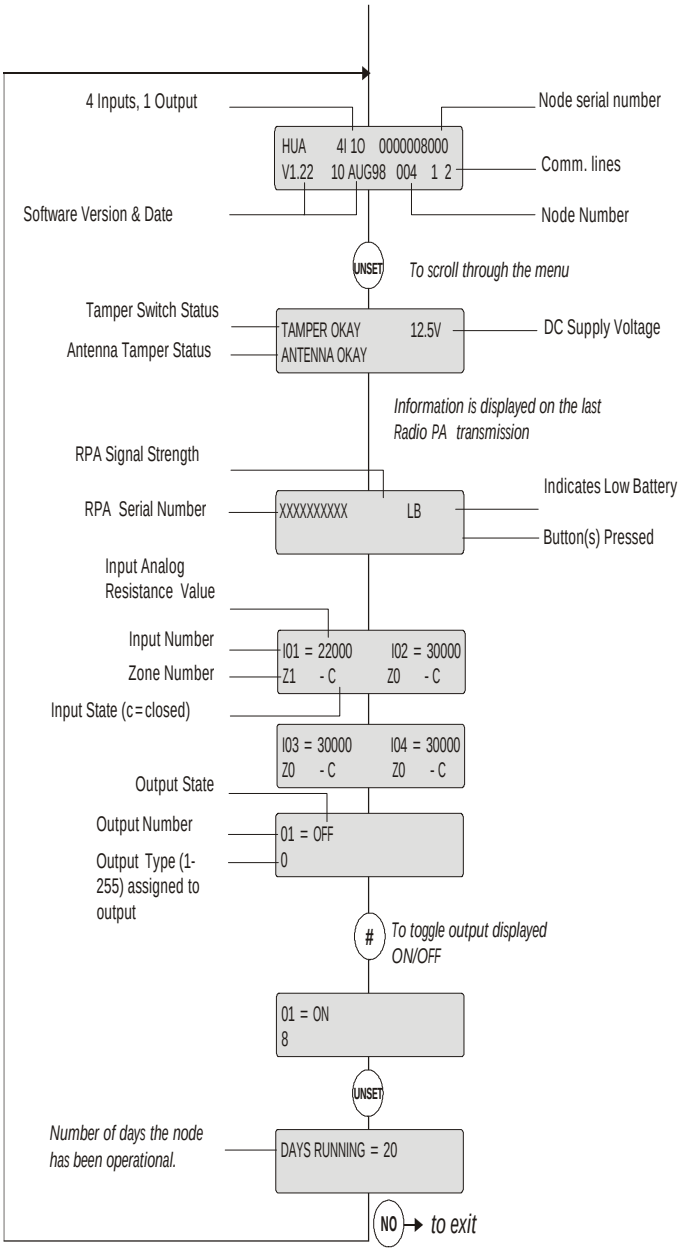
The menu provides you with data on the Hold-up Alarm node's current configuration and allows monitoring of node and PSU parameters. This information includes inputs, outputs, fuse and tamper status.

It can be utilised to interrogate the status of the node without having to remove the cabinet lid, thus avoiding interfering with cables and the need to use a voltmeter for measuring node voltage and currents.

It can be accessed using the HHT infra-red. Alternatively the same node information can be accessed through the Node Configure menu, submenu Monitor. **[See page 8-18: Node Configure - Nodes - Information - Monitor]**

Note *For further information on HHT menus* ***see - PERIPHERAL DEVICES SECTION:*** *HAND-HELD TERMINAL CHAPTER 10.*

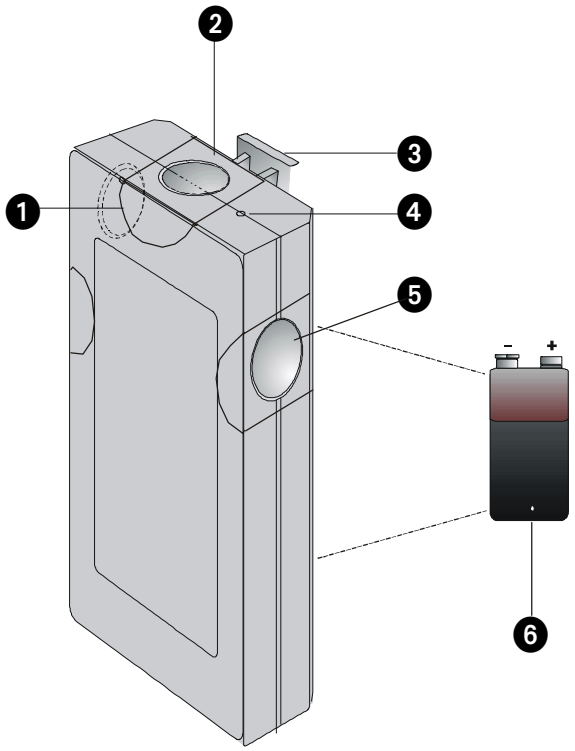




RADIO PANIC ATTACK UNIT (RPA)

Description

This unit is a portable radio transmitter, which is available at 418 MHz or 433 MHz frequencies. It can be configured as a radio panic attack button unit or as a radio interrogation tool. **[*See page 8-24: Radio PA Setup*].**



① **Left button (green)**

② **Top button (yellow)**

③ **Belt clip (removable)**

④ **Transmission LED indicator**

⑤ **Right button (red)**

⑥ **9V battery**

Additional Information

Power

The RPA unit is powered by a PP3 style 9V battery (6).

The alkaline variety must be used to meet battery specifications and to avoid damaging the units by leakage from spent batteries. Battery polarity is indicated on the inside of the unit. On inserting the battery, the transmission indicator will light for a short time to confirm operation. Incorrect insertion will not cause any damage.

Buttons

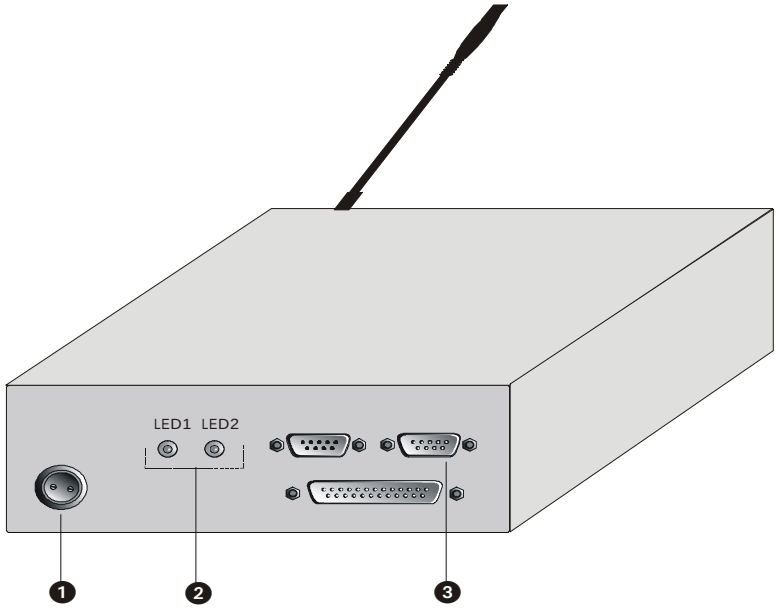
There are three buttons (1,2,5) which are pressed in various combinations to cause a transmission, indicated by the transmission indicator LED (4) on the top face. Transmission continues for as long as the buttons are pressed. These buttons can be programmed to operate individually or in combinations (this is performed from within the *Radio PA Setup* menu in the Software section). There is a belt clip (3) attached to one face.

RADIO PAGER TRANSMITTER UNIT

Description

This unit transmits serial data from the 3GS Controller to remote radio pager receiver units. **[*See page 8-24: Radio PA Setup*].**

Note *Refer to the documents supplied with the pager for more detailed information.*

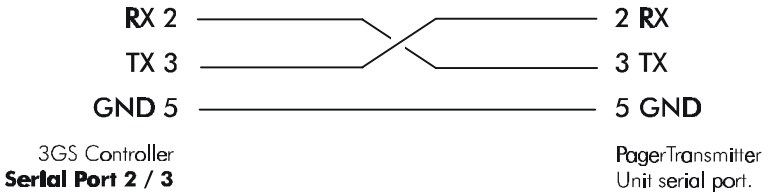


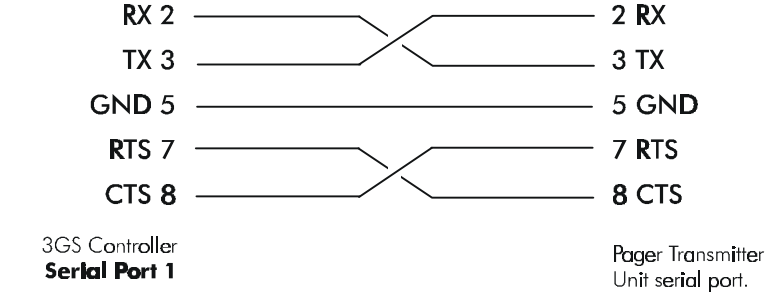
① **Power socket** The Pager Transmitter unit requires a nominal 13.8Vdc and may be powered from the 3GS PSU or a separate power supply. A lead is supplied with a 2-pin circular screw-locking connector on one end which should be connected to the circular power socket located on the unit's backplate.

② **LEDs**

- LED1 - The red LED should remain on when power is connected correctly.
- LED2 - The green LED (2) will light to indicate data transmission. Only the **male** 9-way "D" type connector (3) may be used for serial connection.

③ **Serial port connector** The Pager Transmitter Unit can be connected to any one of the Controller's serial ports. The Controller port MUST be configured for the correct communications protocol by selecting the "Set Data Format" option.



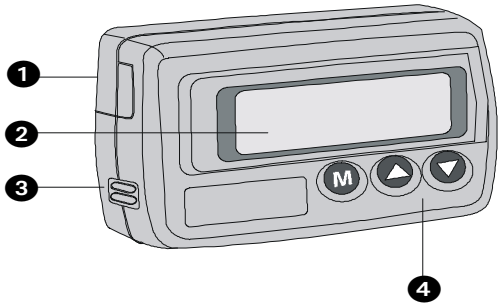


RADIO PAGER RECEIVER UNIT

Description

The pager receiver unit is a digital radio receiver that displays and stores messages received from the pager transmitter unit. The pager receiver must be turned on and is said to be in **stand-by mode** when the date and time are displayed. When a message is received it is displayed and the pager generates a call alert by either beeping or vibrating. The user can program the unit to generate the desired call alert.

The unit can store up to 16 messages in its memory and the user can delete **all** messages or **individual** messages as required. Each pager receiver unit has a unique 7-digit primary and 7-digit secondary address. This may be viewed and entered as *Pager Address* in the *Radio PA Setup* menu.



① Battery compartment

Note *Low Battery Alarm - If the units 1.5V "AAA" battery drops below a workable level, the pager will sound a low battery alarm. The message "Change Battery" appears on the display along with the battery low symbol. Press any key to stop the alert tone. Turn off the power of the pager and slide the battery compartment (1) cover off the unit. Insert the battery into the battery compartment, ensuring that the polarity of the battery is correct. To protect the data you have stored in the pager, do not leave the pager without a valid battery for more than a few minutes.*

② Alphanumeric display

Note *Display Symbols - Various conditions are indicated by symbols on the bottom line of the display. These symbols are described in the table below. Symbols relating to functions not specific to HUA operation (such as alarm clock) are described in the pager manual supplied with the unit.*

2 18	**Address Number :** Message Number and Address Number. (see Address Capacity)
10:40 AM	**Time Stamp :** Time message received.
	Message Saved : Indicates message is protected using SAVE function.
	Message Duplication : Indicates identical message existed in address and was overwritten.
	Tone Alert : Indicates sound pattern will signal an alert.
	Vibration Alert : Indicates vibration will signal an alert.
	Battery Low Alert : Indicates battery level is low.
	Out of Area Indicator : indicates inside radio range area. indicates outside area.
	Message Indicator: Indicates message is longer than one screen.

③ Speaker

④ Function buttons

Function Buttons

M to scroll back through stored message
to select displayed functions

to turn ON and OFF the pager
to confirm certain function settings

to scroll forward through stored messages
to select displayed functions

Additional Information

Turning ON the pager unit

Hold down M for more than 1 second. The pager will make a brief "Pager On" alert. The pager then goes into stand-by mode.

Turning OFF the pager unit

Hold down M in stand-by mode. Release it when the pager emits a single beep, then quickly press it again (within 2 seconds). A "Pager Off" message appears on the display for 2 seconds.

Note *When accessing the following functions, the pager should be turned* ***ON*** *unless otherwise specified.*

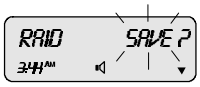
Reading Messages

The unit gives a tone or vibration alert to indicate that it has received an alert message from the system. The message indicator symbol also displays. Press to scroll through the messages.

Deleting Messages One at a Time

Press ▼ to view the messages, e.g.:

When the display shows the message you wish to delete press M. The display shows:



Press ▼ to toggle from "Save?" to "Delete". Press ▲ to enter delete mode (flashing stops) and display shows:

Press ▲ and display shows:

Press ▲ again and the file is deleted.

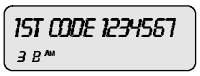
Deleting All Messages

The pager should be turned OFF. Hold down M and ▼ simultaneously for more than 1 second. Release M and ▼ and the pager will power up and show:

Press ▲ to confirm deletion.

To view Pager Address

The pager should be turned OFF. Press M twice. The primary address is displayed, e.g.:



This number may be entered as the pager address in *Radio PA Setup* menu when programming the system **[*See page 8-24: Radio PA Setup*].**

Press ▲ to scroll to a secondary address and also to view the units receiving frequency.

Change Call Alert from Tone to Vibration

Hold down M for more than 1 second, display shows:

Release M and the unit returns to Stand-by mode:

The unit will now Vibrate instead of Beeping.

Change Call Alert from Vibration to Tone

Hold down M for more than 1 second, display shows:

Release M and the unit returns to Stand-by mode:

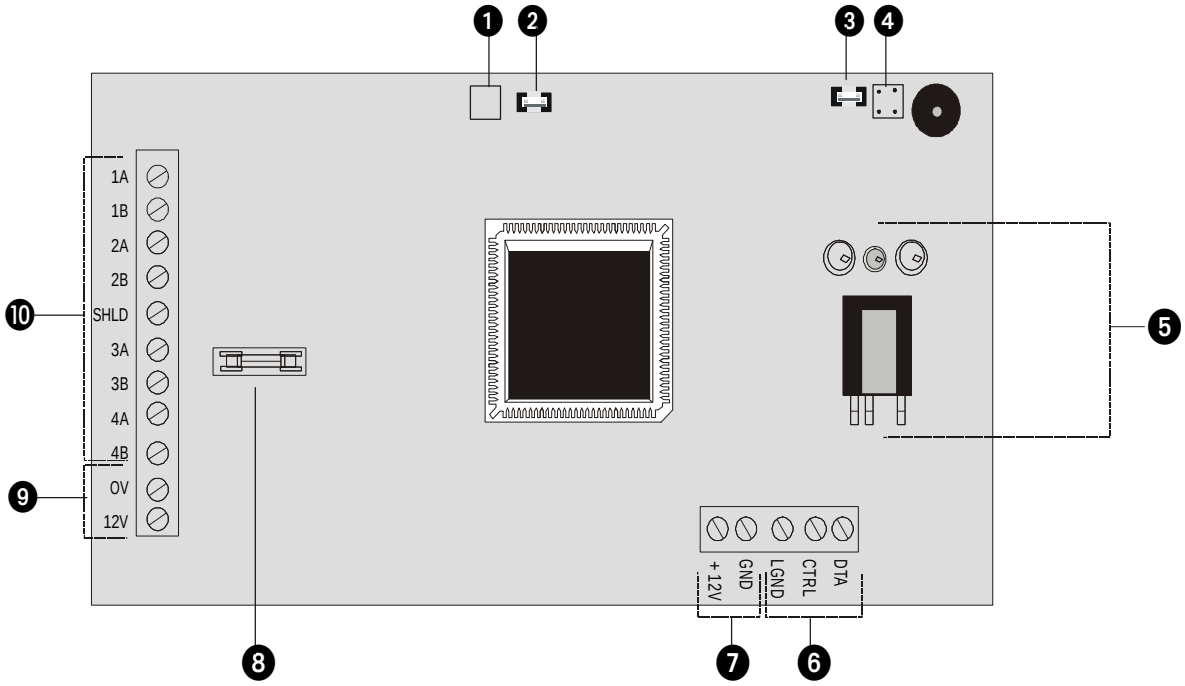
The unit will now Beep instead of Vibrating. Note that the volume of an alert tone increases in four steps on receipt of a call.

LEM NODE

Description The 3GS LEM node is primarily used to upgrade an existing Aplex/Adplex system to 3GS without the need to re-wire every Aplex/Adplex system device. Typically, the Aplex panel is replaced by a 3GS Controller. The Aplex A-LEM and C-LEM modules are then connected to the Controller via the LEM node. The Controller software will recognise A-LEMs as node inputs and C-LEMs as outputs, addressing them automatically. The LEM node will recognise:

A-LEMs, SMT or Hybrid LEM, Quad LEM, C-LEM, AD-LEM, Combo LEM, Key Combo LEM, 6x6 I/O Module, 6 Output Module.

Note *The LEM node does not support Aplex/Adplex keypads.*



① **Front tamper** The node monitors for front tamper.

② **Front tamper link** Use this link to override monitoring of front tamper.

③ **Back tamper (for future use)** The node monitors for back tamper.

④ **Back tamper link (for future use)** Use this link to override monitoring of back tamper.

⑤ **Infra-red communications interface** Not currently available on this node.

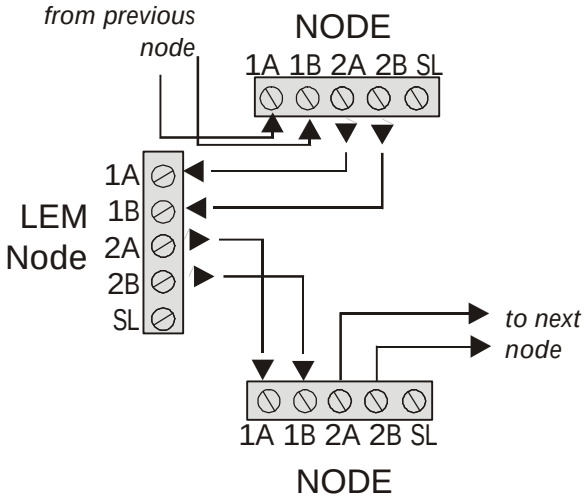
⑥ **LEM line** Bus for connection of Europlex LEM product range. Refer to LEM product manuals for more details.

⑦ **LEM line power** 12V power for powering LEM product range.

⑧ **LEM line fuse** 250mA quick Blow.

⑨ **Power supply and current consumption** The LEM node is powered from the Europlex 1A linear PSU as supplied in the cabinet.

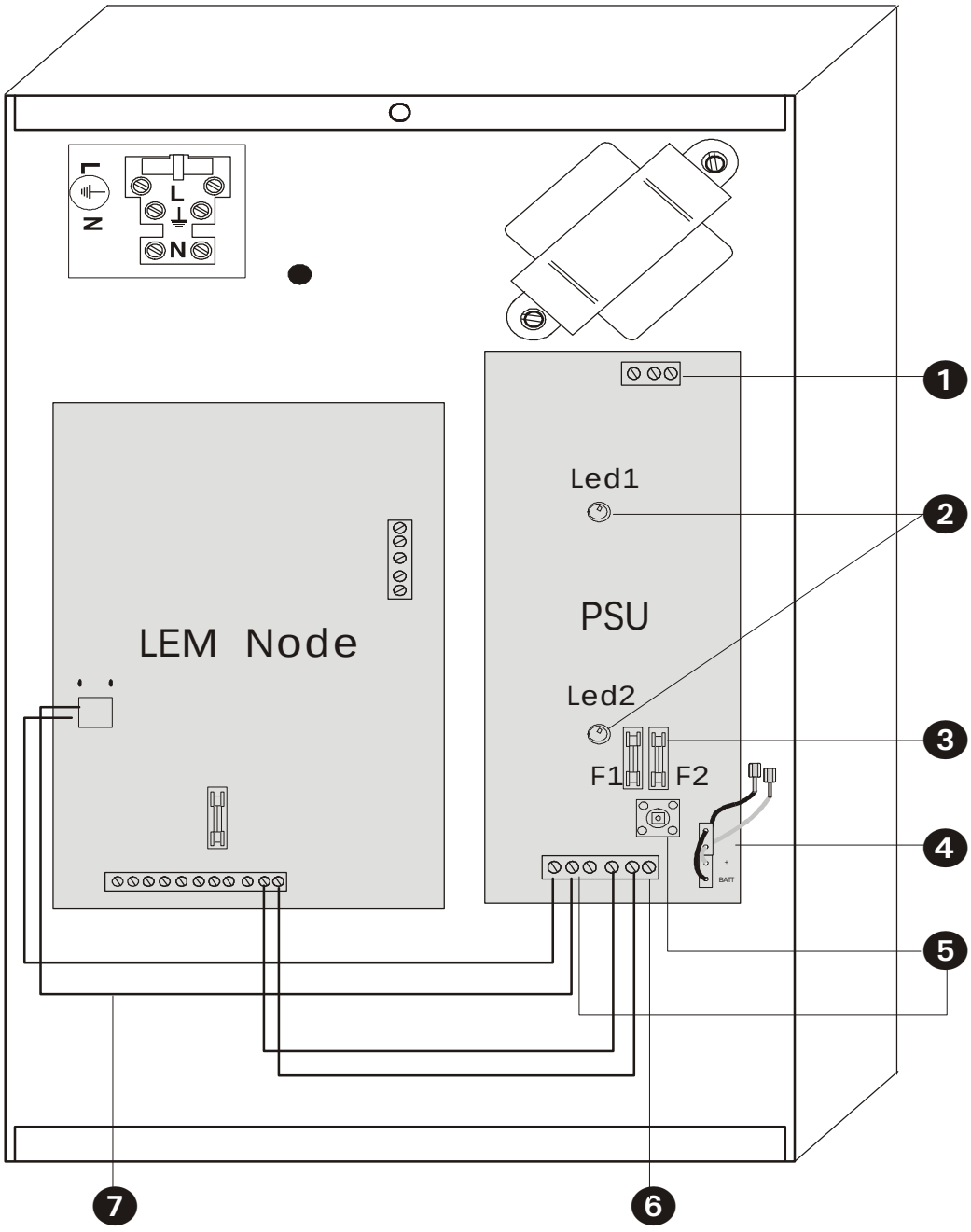
⑩ **Ringnet communications** Nodes should be wired in a ring configuration as shown. Standard alarm cable can be used however, greater distances between nodes can be achieved if a twisted pair cable such as Belden 9829 is used (see table B). The maximum permissible distance between nodes is 1Km (using Belden 9829). The interface uses RS485 in a ring topology. The main Controller therefore has two RS485 ports and completes the ring connection. (See connection diagram and cable type table below).



cable type	maximum distance between nodes
Standard alarm cable	200m
Belden 9502	500m
UTP Category: 5 (solid core)	1000m
Belden 9829	1000m

Note **[*See page 5-10: 8I/O Node, Branch Node diagram, in the ringnet section*]**

LEM Node Cabinet



① **Transformer connector (17V AC)**

② **LEDs**

- LED1 - Mains/AC
- LED2 - Fuse status

③ **Fuses**

- F1 - 1 Amp Quick Blow
- F2 - 1 Amp Quick Blow

④ **Battery connections**

⑤ **Front tamper switch**

⑥ **12 V DC and tamper connection**

⑦ **Tamper connection** Links LEM node tamper to PSU front tamper

Additional Information

Installing the LEM node

Typically, the Aplex/Adplex panel is replaced by a 3GS Controller. The Aplex A-LEM and C-LEM modules are then connected to the Controller via the LEM node. The Controller software will recognise A-LEMs as node inputs and C-LEMs as outputs, addressing them automatically. The LEM node will recognise:

A-LEMs, SMT or Hybrid LEM, Quad LEM, C-LEM, Combo LEM, Key Combo LEM, 6x6 I/O Module, 6 Output Module. The LEM node is delivered in a metal enclosure, together with its 1A PSU. It should, therefore, be left in this enclosure, and not installed in the 3GS cabinet, to avoid any PSU conflict.

The LEM node must be powered by its 1A linear power supply, and *not* by the 3GS switch-mode PSU. The LEM node does not support Aplex/Adplex keypads. Powering the LEM node from the 3GS PSU can cause interference on the LEM data line and must be avoided.

Cable distance & type supported

No more than 750 metres of standard unscreened alarm cable (capacitance < 100pf / km) should be connected to a single LEM node. If two LEM nodes are used on a 3GS system, each can support up to 750 metres. If a screened cable is used, it is likely that less than 350m of this recommended distance is possible.

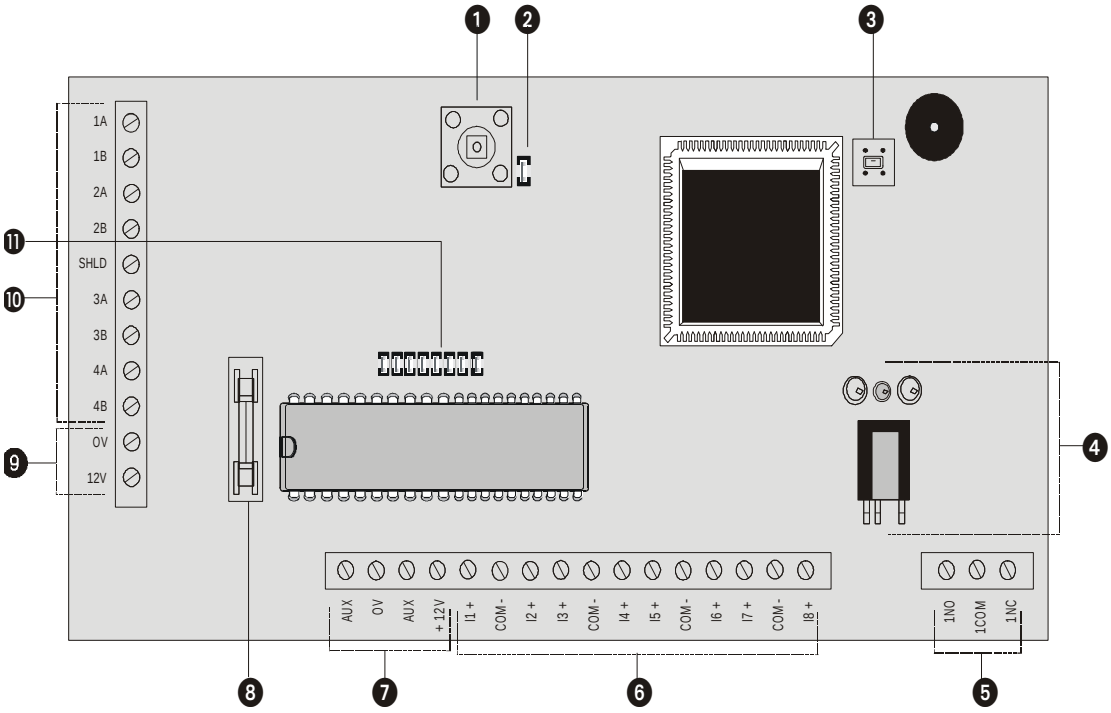
Multiple LEM nodes

No more than 2 LEM nodes should be connected to a single 3GS system. If two LEM nodes are installed on the same 3GS system, they should be powered separately by their own 1A PSUs.

ENCRYPTION NODE

Description

The traditional method of detecting alarm and tamper inputs uses end-of-line resistance, where different resistance values reported to the panel will indicate different states. The 3GS Encryption node receives encrypted inputs from an encryption module placed inside the alarm sensor. The node is wired for both alarm and tamper loops and has an individual node address. In this way, the panel receives alarm or tamper events from an individual zone input address, making system compromise more difficult. The node also incorporates all the features of the 3GS 8 Input/1 Output node.



① **Front tamper** The node monitors for front tamper.

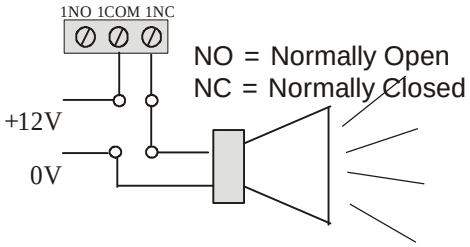
② **Front tamper link** Use this link to override monitoring of front tamper.

③ **Back tamper (for future use)** The node monitors for back tamper.

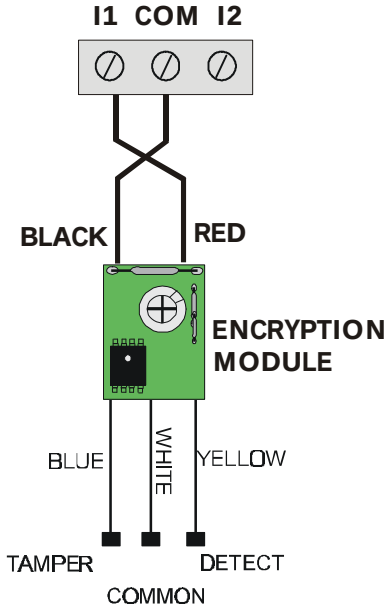
④ **Back tamper link (for future use)** Use this link to override monitoring of back tamper.

⑤ **Infra-red communications interface** Used for Hand-Held Terminal (HHT) communications (see *Diagnostic* menu for more details).

⑥ **Output** The Encryption node has one on-board 1Amp single pole changeover relay, which can be assigned to any of the system outputs. **[*See page 8-22: Node Configure - Outputs*].**



⑥ **Inputs** The Encryption node has eight on-board zone inputs. These inputs are monitored using dual E.O.L. supervision as wired below.



description	value	zone status
OPEN	4400	Zone open
CLOSED	2200	Zone closed
DISCON	30 000	Zone disconnected
SHORT	< 1400	Zone shorted
DC SUBS	Variable	DC Voltage substitution

Encryption module The Encryption module is placed within the sensor or detector and connects to the sensor alarm and contact loops, and to the input and common terminals on the Encryption node.

The Module processor is pre-programmed at the factory with one of 256 sub-addresses. 3GS software will combine with these sub-addresses to allow a potential 64,000 unique addresses.

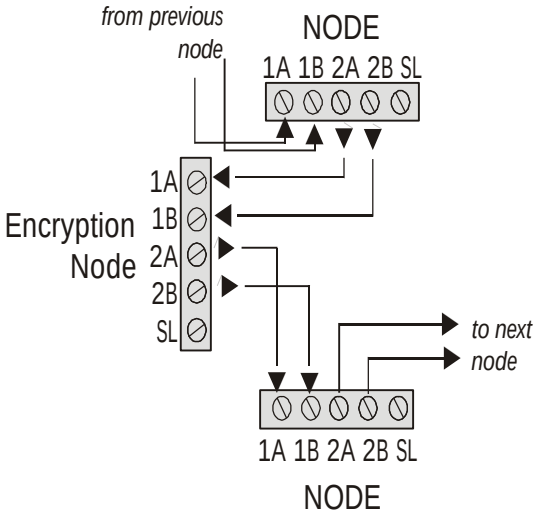
⑦ **Auxiliary supply(12V)** Used to power auxiliary devices to a maximum of 250mA

⑧ **Auxiliary supply fuse** 250mA Quick Blow

⑨ **Power supply and current consumption** The Encryption node requires 12V DC, which should be supplied directly from the Controller PSU or from a remote PSU. Current consumption - Quiescent 100mA.

⑩ **Ringnet Communications** Connect the Ringnet cable to the four terminals 1A to 2B.

These terminals are used for connecting the Encryption node onto the ringnet (see connection diagram and cable type table below).



cable type	maximum distance between nodes
Standard alarm cable	200m
Belden 9502	500m
UTP Category: 5 solid core	1000m
Belden 9829	1000m

Note **[*See page 5-10: 8I/O Node, Branch Node diagram, in the ringnet section*]**

⑪ **Encryption selection header connector**

Encryption Node Cabinet

This node has the same cabinet as the 8 Input/Output Node. **[See page 5-8: 8 I/O section]**

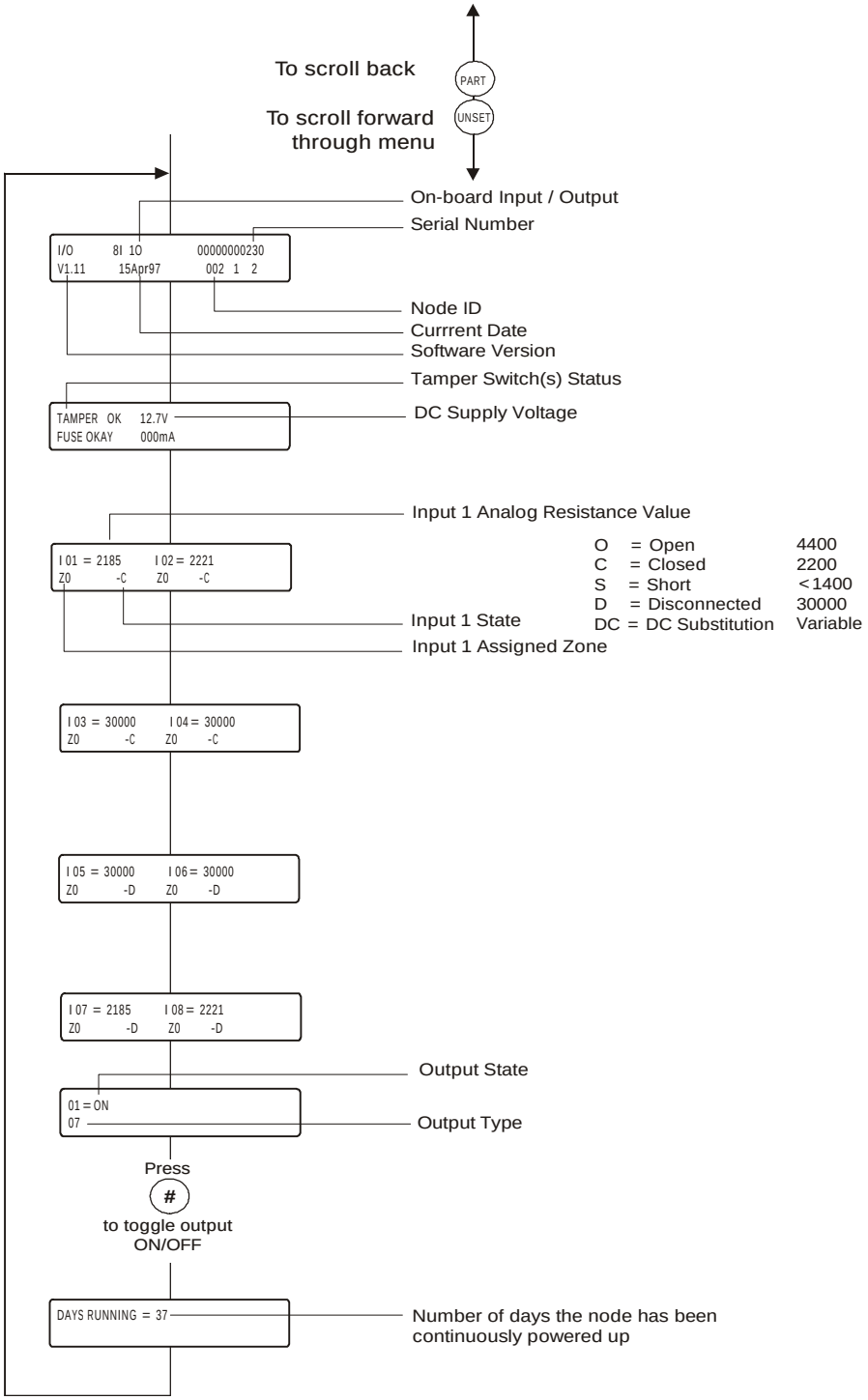
Diagnostic Menu; Encryption Node

The menu provides you with data on the Encryption node's current configuration and allows monitoring of node and PSU parameters. This information includes inputs, outputs, fuse and tamper status.

It can be utilised to interrogate the status of the node without having to remove the cabinet lid, thus avoiding interfering with cables and the need to use a voltmeter for measuring node voltage and currents.

It can be accessed using the HHT infra-red. Alternatively the same node information can be accessed through the Node Configure menu, submenu Monitor. **[See page 8-18: Node Configure - Nodes - Information - Monitor]**

Note *For further information on HHT menus* ***see - PERIPHERAL DEVICES SECTION:*** *HAND-HELD TERMINAL CHAPTER 10.*



6 SERIAL COMMUNICATIONS

In this chapter

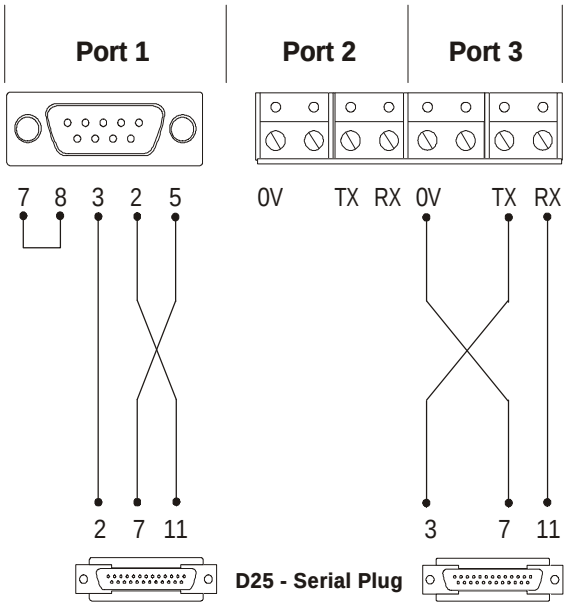
■ Serial port connection 6-1

- Connecting a printer
- Direct connect to a PC/laptop
- Remote communication via modem
- Remote communications via DM1200 (Europe)
- Euronetwork card

SERIAL PORT CONNECTION

Connecting a printer

A local serial printer can be connected to the 3GS. Any 80-column serial printer that can be configured for the data format below and which will accept TTL signal level will work with the 3GS.



Serial Printer

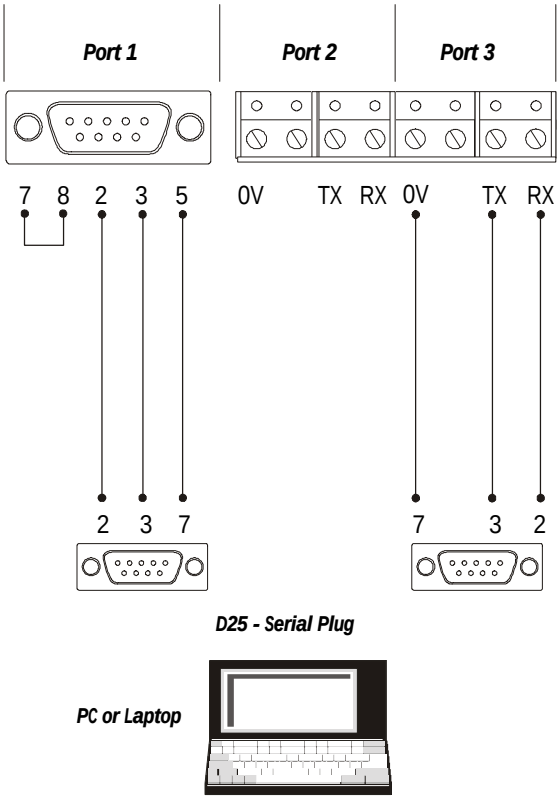
Serial port 3 on the 3GS controller defaults to the following printer set-up:

Baud Rate:	1200
Parity:	EVEN
Stop Bits:	1
Data Bits:	7

Note *3GS provides three serial ports that offer a wide range of communication capabilities. However, you should refer to Set Data Format in the Software section for information on the range of possible serial port settings.*

Direct Connect to a PC/Laptop

When programming the system locally with Panelman, you will need to connect the 3GS to the serial port on the PC or laptop.

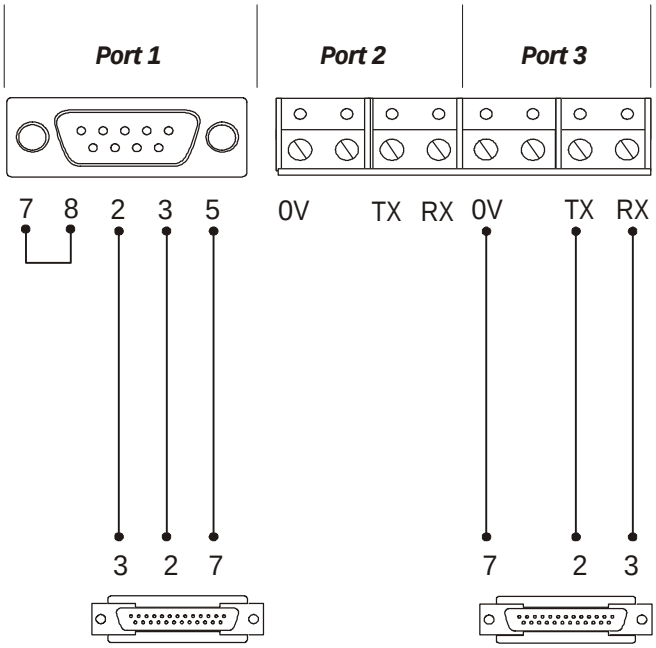


The system should be configured as follows:

Printer:	No
System ID:	1
Access Control:	31
Log Filter:	32767
Dial Mode:	0
Data Bits:	8
Baud Rate:	2400
Parity	Even

Remote Communication via Modem

For remote communication with the 3GS system (for example using Europlex's ED2000 3GS+, Panelman or when using a remote printer), you must connect a modem to the system.



D25 - SERIAL PLUG

Modem

Serial port 1 on the controller defaults to ESCO set-up, which is:

Baud Rate:	2400
Parity:	EVEN
Data Bits:	8
Stop Bits:	1

Remote Communication via DM1200

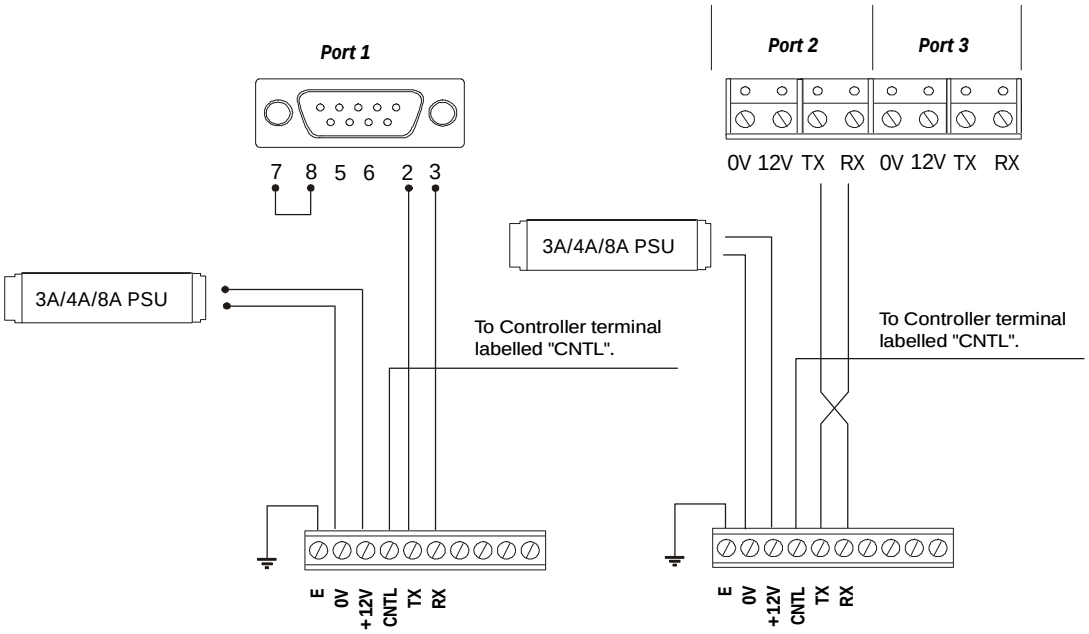
The DM1200 is Europlex's 16-channel digital communicator/modem with 1200 baud serial comms capability. Serial port 2 on the 3GS defaults to DM1200 settings.

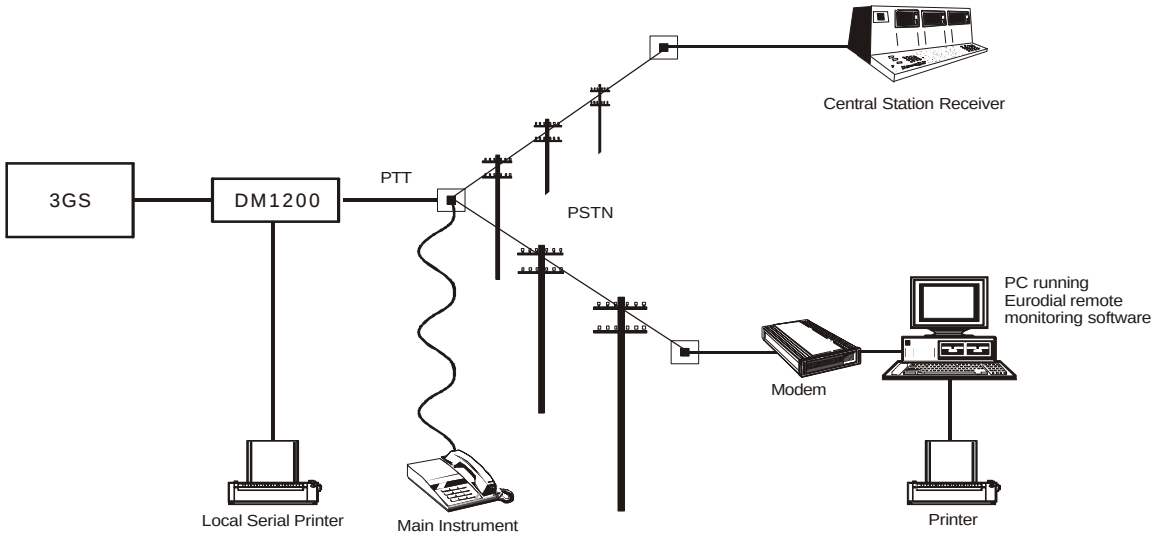
The DM1200 monitors the 3GS's control line to determine the state of the outputs. These outputs can be mapped to the DM1200's channels which can number 16 in fast format, 8 in slow format.

If an output changes state and the delay timer has expired the DM1200 seizes the phone line (disconnecting any other apparatus connected) and dials a pre-programmed number. The appropriate signals are sent to the alarm central station receiver, indicating the type of alarm.

Programming of the DM1200 can be performed through the 3GS RKD. **[See - *PERIPHERAL DEVICES SECTION: DM1200 CHAPTER 12*].**

Note *To connect remote communication devices for use with PC software, you must connect a modem to the PC and a DM1200 to the panel. This is the only configuration that will work.*

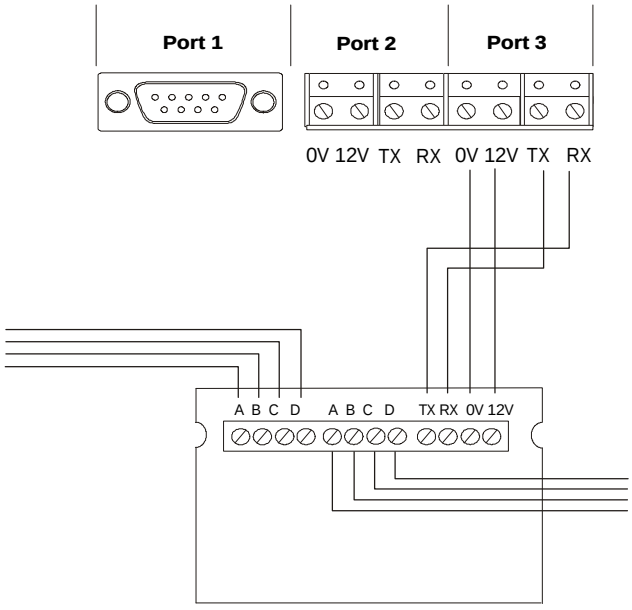




DM 1200 SYSTEM CONFIGURATION

Euronetwork Card

When using Network XII or 3GS+ software, a Euronetwork card is required per Controller in the network.



Euronetwork Card

The serial port should be configured as follows:

Printer	No
System 10	1-12
Access Control	31
Log Filter	32767
Dial Mode	0
Data Bits	8
Parity	Yes

Note *All controllers must be set to the same baud rate.*

3GS SOFTWARE

About this Section

General Programming

- Date and time
- Serial port (communications setup)

Intruder Alarm

- Setup Users
- Setup Zones and Inputs
- Setup Nodes
- Setup Outputs
- Setup Areas
- Monitor and test zones
- Reports and logs
- Alarm handling

Access Control

- Setup Cards
- Setup Doors
- Setup Door Groups
- Setup Time zones
- Setup Access level
- Setup Visitor level
- Setup Function Level
- Door control
- Monitor and test Access
- Reports and logs

Radio Panic Attack

- Setup RPA
- Setup RPA buttons
- Setup Pager
- Monitor and test RPA
- Reports and logs

7 PROGRAMMING OVERVIEW

In this chapter

- General overview 7-1
- Intruder system overview..... 7-2
- Access system overview..... 7-3
- Access control setup examples 7-5
- Radio system overview 7-7
- Getting started..... 7-8

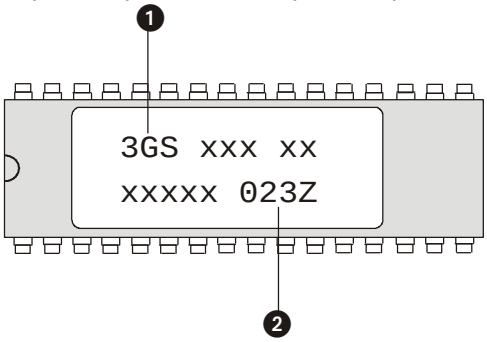
GENERAL OVERVIEW

Nodes	100
Outputs	255
Output Functions	1000

Complete programmability is a very powerful feature of the 3GS system. This allows you to configure each system for an installation's specific requirements and to define how zones behave under certain conditions. Node descriptions, zone descriptions and user names allow easy identification of system events and user action.

Software Identification

Information about the software version used for a particular panel is printed on the panel's eprom:



This label provides the following information:

① Product Name. This is the product name for the panel (3 characters).

② ID Code. Every new release eprom is given a unique identification code. This code is used by Europlex to identify the exact files used to create the eprom.

Note *If you have a query regarding software always quote this ID code.*

Software Features

Your Europlex integrated system consists of some or all of the following equipment:

- 3GS Control Panel
- Up to one hundred nodes
- Up to 200 fully supervised zones, some of which can be connected directly to the main control panel and others which interface to a network cable ringnet running around your premises via nodes.
- Up to 255 system relay outputs which can switch on and off alarm sounders, lights, control cameras, open electric gates etc. Some of these outputs may connect directly to the control unit, while others interface to the network via nodes.
- Audible devices, such as bells, sirens, buzzers etc.
- Sensors which connect to system zones (for example motion detectors).
- Smoke detectors which detect the presence of smoke or pre-combustion gases in the area where they are placed.
- 10,000 access cards.
- 64 access doors.

Nodes

The 3GS system handles one hundred nodes in total on the ringnet. The nodes available offer a range of functionalities. These includes display and key entry, input and output for intruder access control and radio power monitoring etc.. Depending on the system configuration, these nodes can be used to handle the highest level of security, access control and many other features.

Outputs

The 3GS system is capable of controlling up to 255 unique system outputs. The Controller has four on-board 1 Amp relays, while relays on the I/O nodes can be addressed to any output number (1-255). Relay outputs can be used to trigger any amount of devices for many applications.

Typical applications are:

- Siren/bell/strobe triggering
- Camera Switching
- System set/arm and alarm indication
- Lighting / heating circuit control
- Door / security barrier control
- Inputs to remote communication devices

Output functions are predefined and output types may be assigned to them.

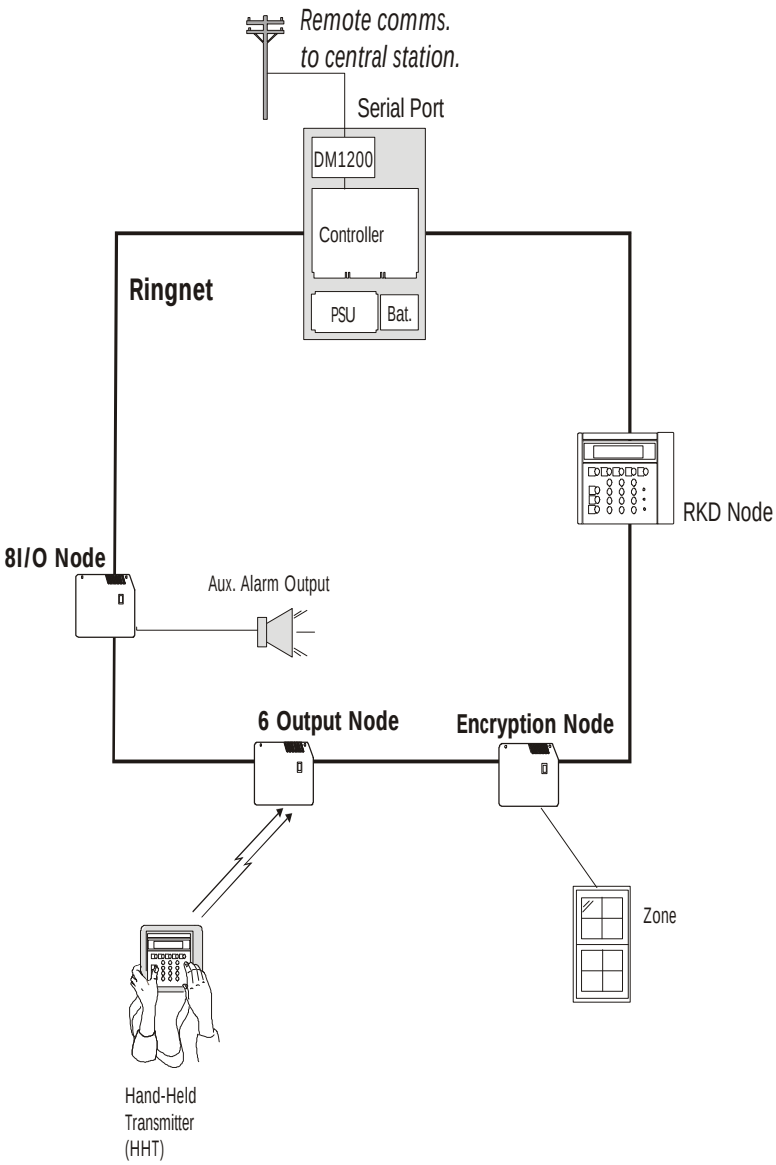
Variables

The 3GS system has many variables, which are detailed later in this chapter. These variables offer a choice of operation to the installer, allowing for the customisation of the system.

INTRUDER SYSTEM OVERVIEW

Alarm Users	126
Alarm Zones	200
Areas	32
Alarm Log	1000

The main intruder system components are detailed below. The diagram opposite shows an example of this configuration.



Users

Currently the 3GS system supports up to one hundred and twenty six intruder system users. User 1, by default, is the installer/engineer user, who has a default code of 1010 and a default set of engineering options, detailed in the *Menus* chapter, which can not be altered. User 2, by default, is the master user, who has a default user code of 1020 and a default set of options, also detailed in the *Menus* chapter, which can not be altered.

There are three special users, which are for logging purposes only; user 37 is a timed user, user 38 is a remote user and user 39 is an access control user. These special users have no user options and no user code. All other users can be given a subset of the master user options.

Zones

The 3GS currently has the facility for up to two hundred alarm zone inputs and sixty four alarm door zone inputs. Zones are added to the system using end of line resistors (EOL's). Each node on the 3GS, except for the 6 Output node, has the capacity for zones. A node input is assigned a zone number on power up. All inputs on all nodes do not have to be used. These zones are configured on the intruder system by assigning zone types and attributes (detailed in the *Menus* chapter), which determine the behaviour and actions of the system in various modes.

Areas

The 3GS system can be sub divided into areas. These areas may be set/armed and unset/disarmed individually. Users and RKDs may be assigned to one or more areas and only users with rights to these areas will be allowed to set/arm or unset/disarm them. Area related messages can only be viewed at RKDs assigned to the area. Zones and doors can also be assigned to an area so that when an area is armed, both zones and doors are also armed.

Outputs

The 3GS outputs can be configured to respond to intruder alarm events. The system has a set of default outputs (detailed in the *Menus* chapter), which are tripped under certain conditions. The nodes must be configured to have node outputs mapped to output types. More than one node output may be assigned to the same output type.

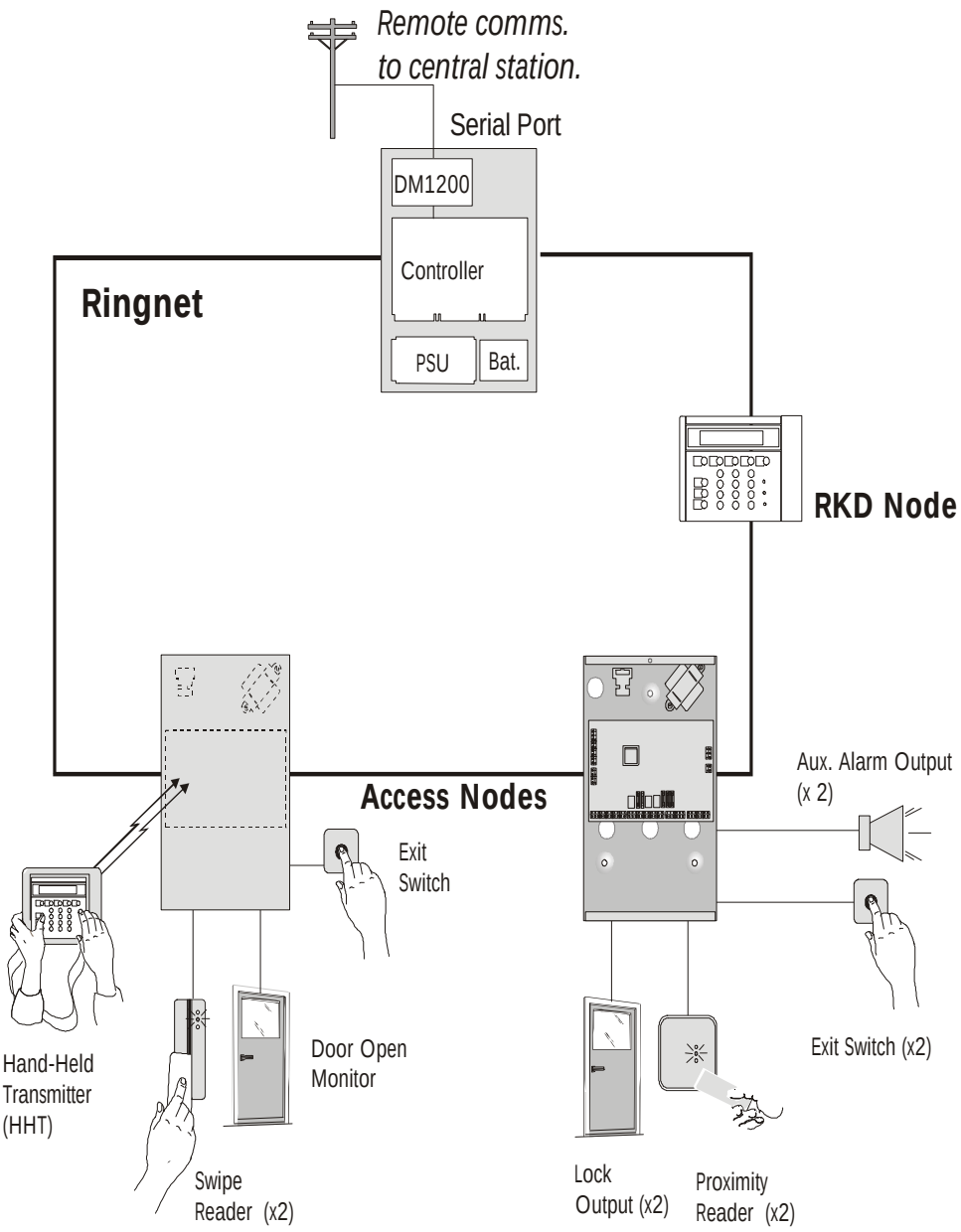
Intruder Log

The intruder log stores one thousand log events, which are date and time stamped. This log provides a record of all intruder and system activity (keypad input, status alerts, alarm activations, etc.). It can be viewed on the RKD nodes or printed if a hard-copy is required. The detail and length of the log provides an invaluable record of the system operation for both fault finding and intrusion alarm analysis.

ACCESS SYSTEM OVERVIEW

Cards	10,000
Doors	64
Access Levels	250
Function Levels	250
Visitor Levels	250
Door Groups	250
Time Zones	64
Access Control Log	3,000

The 3GS Access Control system allows the 3GS to manage a complex card access system for your premises. The diagram opposite shows an example of this configuration.



Doors

The 3GS Access node provides a facility for two doors per node (see Hardware section), to a capacity of sixty four doors per system. Each door can be integrated to the intruder system by assigning zone types and attributes. The door can be used in conjunction with cards to set/arm and unset/disarm the system. These doors are monitored for forced and left open conditions and outputs can be tripped for these events. Doors can be set up for free access or card access, or can be timed or permanently opened/locked.

Door Groups

Doors are grouped to provide different levels of access.

Cards

The 3GS Access system has a capacity for 10,000 cards. Each card must be passed on the system for an access level, which is a combination of door groups and time zones. Cards may be configured as temporary cards (visitor level), which makes the card valid on the system between specified times.

For integration of cards onto the intruder system, function levels can be assigned to the card, which allow setting/arming and unsetting/disarming the system at particular doors.

Time Zones

A time zone is a set of on/off times for a selection of days in the week. They can be applied to doors for timed opening or locking and to cards to permit access to a group of doors for a time zone via access levels. Time zones may be configured for extra security features, such as PIN codes.

Access Log

The access control log provides a record of all access control events (access granted, access denied, timed open, manual door control, etc.). These events are all date and time stamped and may be viewed or printed.

PIN pad only operation

This option is only available on Access Control node software, rev. 1.06 or later. This allows the cardholder to gain access using just the card's PIN code. However, if two cardholders' PIN codes match, the system will use the first cardholders information to log the data. Ideally each cardholder should have a unique PIN code. This feature is only enabled when the cardholder has a time zone with the PIN ONLY attribute set. When the time zone is active the cardholder can simply enter his code to gain access. When the time zone has elapsed, card and PIN are required.

- PINPad Only Duress code

The Duress code is now activated by keying in the code followed by the hash key (#) on the PINpad.

- Access Node Stand-alone mode – PIN only

In stand-alone mode, access is permitted through doors with keypads, using a system PIN code only. This system PIN code defaults to 1020, but may be changed from the SETUP CARDS, SITE CODE menu on the panel.

Note *PINpad only operation is configurable using 3GS+.*

The Access Node will store 300 log events when in stand-alone mode.

Cards and Stand-Alone Operation

Operating the Node in stand-alone mode, i.e. when not connected to the Ringnet, will affect its ability to read cards in the following ways:

- Unstructured Cards will not be recognised.
- The node will support structured cards of numbers 1 to 10,000 only.

If a card had been presented to the reader and granted access while comms. were operating, the node will keep this information in memory. When in standalone mode, the Access Control Node will continue to grant access to this card. If access was denied while comms. were operating, the standalone node will deny access accordingly.

Door Outputs

The system features two outputs specific to doors. These are:

Door Forced

Forcing a door will cause a door forced output to trigger (specific to the door, if assigned), the door description to be displayed, and a keypad buzzer to sound in the relevant areas (local alarm only).

If a door is programmed with a zone type, then a door forced will cause execution of a zone command string, i.e. if the system is set/armed a full alarm will result.

If a door is inhibited, the ‘door forced’ and ’door left open’ conditions are still monitored for access control but will not cause an alarm.

To remove a door zone which is generating false alarms, the door should be disabled until the door zone is fixed (Installer code plus SHIFT NO).

Door Left Open

Leaving a door open too long will cause a door left open output to trigger (specific to the door, if assigned), the door description to be displayed, and a keypad buzzer to sound in the relevant areas (local alarm only).

Door timers are setup or changed using 3GS+ software.

ACCESS CONTROL SETUP EXAMPLES

Example 1

To pass a card (no.1 site code 1000) for all doors on the system for 24 hour access. The card must be presented to each door when entry is required at any time of the day.

SETUP

- Setup Site Code
  - Installer code SHIFT SHIFT 6
  - Select 'Cards'
  - Select 'site code'
  - Enter 0000001000
  - Quit back to Date & Time
- Assign Card no.1 onto the System
  - Installer code SHIFT SHIFT 6
  - Select 'cards'
  - Select 'assign'
  - Select 'learn'
  - Select door number to be programmed from
  - Select required card ID
  - Present card to reader at door selected
  - Display shows CARD 1 → 1
  - Card no.1 is now assigned to card ID 1
  - Quit back to 'Cards Pass/Void'
- Pass Card for all Doors for 24 hour Access
  - Select an access level
    - From 'Cards Pass/Void' select 'Pass/Void'
    - Select 'Pass cards'
    - Select from card 1
    - Select to card 1
    - Select 'Change Access Level?'
    - Enter access level 1
    - Quit back to Date & Time
  - Setup Access Level 1
    - Installer code SHIFT SHIFT 8
    - Select 'Access'
    - Select 'Groups - Times'
    - Enter group/time
    - Enter door group no.1
    - Enter time zone 0 (24 Hr)
    - Quit back to 'Group - Times Access'
    - Select 'Access'
    - Enter access level 1
    - Set Group/Time to YES
    - Quit back to Date & Time
    - Access level 1 is setup for group/time 1, which is door group 1 for 24 hour access
  - Setup Door Group 1
    - Installer code SHIFT SHIFT 3
    - Select 'Setup'
    - Enter door group 1
    - Select all doors by pressing * key. All dots (.) on the display change to asterix (*)
    - Quit back to Date & Time

The card is now passed for all doors for 24 hours a day.

This setup can be greatly simplified by using Europlex's Access Management Software 3GS+.

Example 2

To setup the access system so all doors are in free access from 9am to 1pm and from 2pm to 5pm, Mon-Fri. Card access is required outside these times.

- Setup Time Zone for Doors
  - Installer code SHIFT SHIFT 5
  - Select 'Zones'
  - Select 'Setup'
  - Enter time zone 1
  - Enter time slot 1
  - Set On Time to 09.00
  - Set Off Time to 13.00
  - Enter time slot 2
  - Set On Time to 14.00
  - Set Off Time to 17.00
  - Quit back to Selection of Days
  - Set Mon, Tue, Wed, Thur, Fri to YES
  - Quit back to 'Enter Time Zone'
- Setup Time Zone for Card Access
  - In Time Zone menu enter time zone 2
  - Enter time slot 1
  - Set On Time to 13.00
  - Set Off Time to 14.00
  - Enter time slot 2
  - Set On Time to 17.00
  - Set Off Time to 09.00
  - Set all days to YES and the rest of the time zone options to NO
- Setup Cards for Card Access
  - Setup access level 2 for group time 2: door group 1 (all doors), time zone 2
  - Pass all cards for access level 2
- Setup Doors for Free Access
  - Installer code SHIFT 3
  - Select 'Setup'
  - Select 'Zones'
  - Select door 1
  - Press YES for time zone 1. Dot (.) changes to asterix (*)
  - Repeat for all doors on the system
  - Quit back to Date & Time

Doors will go into free access during the times 9am - 1pm and 2pm - 5pm, no card required. OUtside these times card access is required to open the doors.

More complex examples of the above can be achieved, but to do so Europlex recommend the use of the Access Management Software 3GS+. Using this software, it is possible to easily configure the access control system to allow card access to a variety of doors for various times using different access levels. Time zones can be setup to require a card and PIN for access. Cards can be setup as visitor cards, which requires specifying a start and expiry date. Cards can be configured to set/arm and unset/disarm the system/areas by passing the card for a function level. For more information see the on-line help on 3GS+ PC Software.

RADIO SYSTEM OVERVIEW

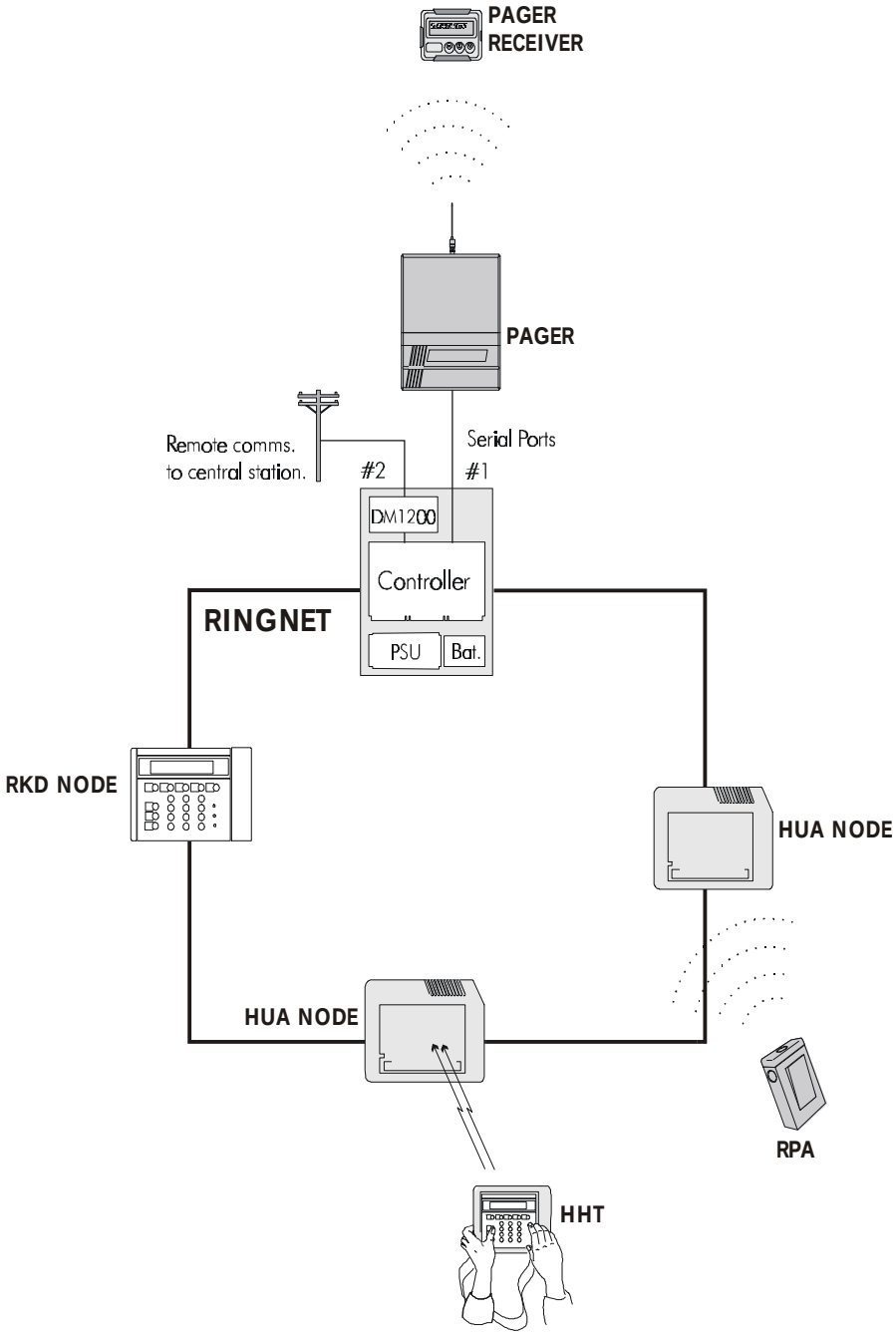
The 3GS Radio system allows for the integration of 418MHz or 433MHz radio panic attack buttons. The diagram opposite shows an example of this configuration.

Radio PA Buttons

These radio transmitter buttons can be given a description (user name or location) and may be configured to transmit a range of messages depending on the button combination pressed. These units also monitor for low battery condition.

Pager Transmitter

The pager transmitter unit is connected to a serial port on the 3GS. This can be configured to transmit messages to pager receivers.



In order for the system to function as specified, ensure that both AC/mains and battery back-up power sources are connected.

Initialising the system with either power source removed will generate an alert message. On power up, the RKD node briefly displays its own setup information followed by the 3GS application program version/operating system version and date. (Refer to diagram on page 7-11 for more details).

Cold start or warm start?

If this is the initial power up, perform a *cold start* (see table overleaf). While the 3GS version message is on the display (approximately 5 seconds), press the FULL key. A cold start resets the system RAM thereby returning system settings to their default settings (all programmed data and log data is cleared).

If you are powering up a system which already has data programmed, allow the version message to time-out and this will generate a *warm start*.

Clear node database?

The node database contains data the installer will have programmed, such as node IDs, descriptions, input/output assignments and so on. On initial power up therefore, this database is already clear. When this option is selected, the system scans the Ringnet and assigns default ID numbers and descriptions to all on-line nodes and assigns zone numbers to all on-line inputs. Any programmed node information is overwritten.

By selecting NO to this option, it is possible to perform a cold start, without losing programmed node information.

Enter name & address

The system requests the installation name and address. This is achieved by placing a text overlay on the numeric keypad and using the method described in “Typing Text” in the *Menus* chapter in the Software section to enter alphanumeric characters.

The installation name /address will appear on the system log, literal printout and on-line reports. To bypass this step press the # key.

Initialise nodes?

Following a warm start (or soft start), this option prompts you to inform the system if you have changed the node/input/door hardware configuration (nodes/inputs/doors added or removed) by pressing the YES key.

If the node/input/door hardware configuration is unchanged since the last system start-up, press NO.

System start types

There are four different start types outlined in the table below. It is not necessary to perform a warm/soft start when adding new nodes/inputs/doors to the system. These can now be brought on-line within the Node Configure option.

On-line nodes / on-line inputs / on-line doors

The system will make a count of all *on-line* nodes, inputs and doors. If this does not correspond with the number of nodes, inputs or doors connected, press the NO key.

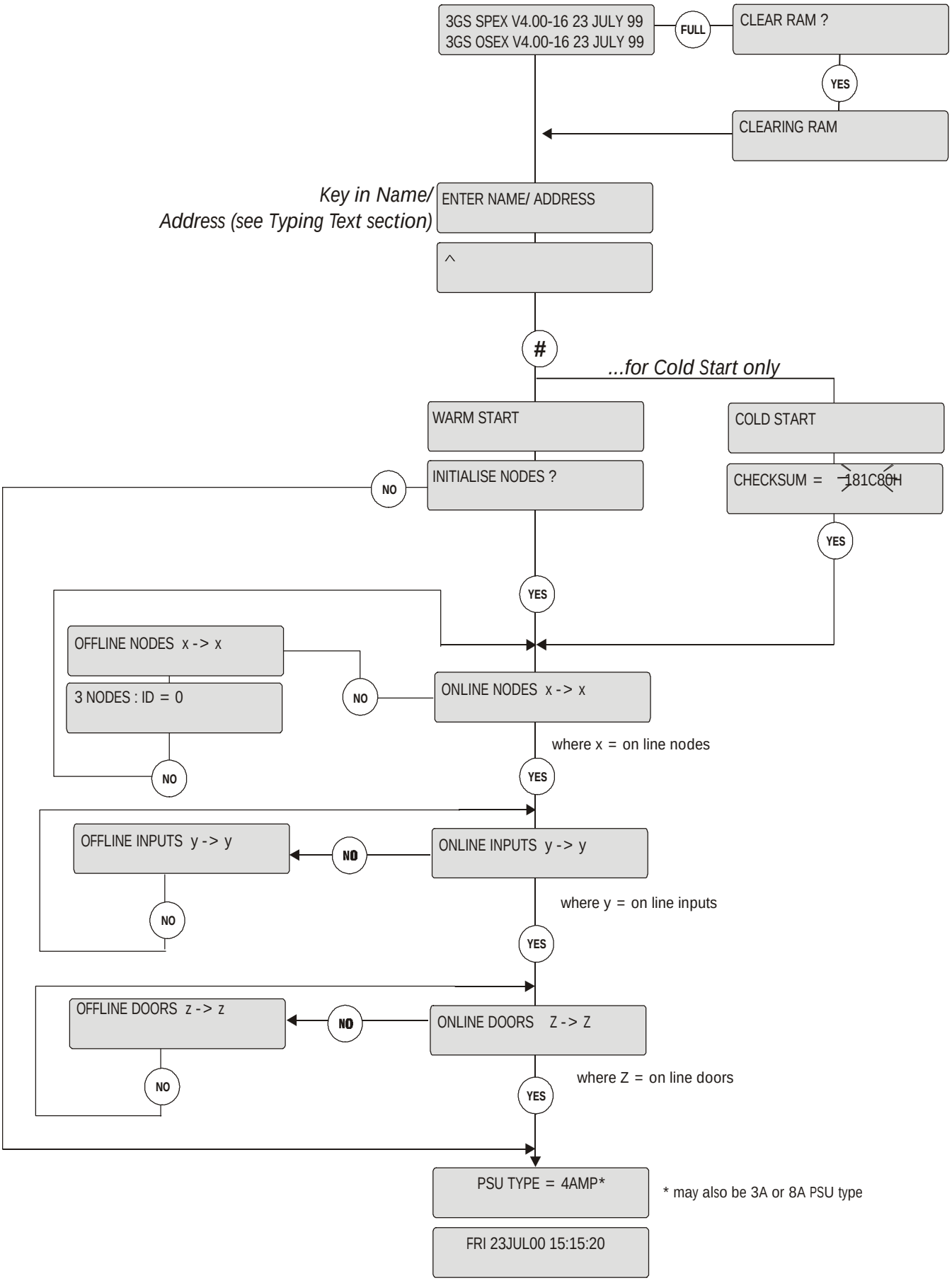
The number of *off-line* nodes, inputs or doors is then displayed. The system will indicate why a node is OFF-LINE.

Alert message displayed on start up

Following a system start up, an alert message will be displayed. A cold start will also cause the keypad buzzer to sound. It will be necessary to “alert accept” these messages **[*See page 8-81: Accept All Alerts*].**

Start Type	How to select...	When to select...	Consequence
Cold Start	Press down FULL key while 3GS version message is displayed (directly after applying power)	On initial power up. If programmed data is corrupt and reset required	System RAM is reset. All system programmed data and historical log information is lost
Warm Start	Allow normal message routine (after applying power)	Normal power up	Option to add new nodes/ inputs Programmed data okay
Soft Start	i) CODE SHIFT 7 ii) Select Soft Start from menu	During system operation	Option to add new nodes/ inputs Programmed data okay
Auto Start	i) Automatic system reset (after hardware disruption) ii) Reset button activated (located on Controller board)	During system operation a reset button auto start will allow you to reset RAM by pressing the FULL key while the version message is displayed, i.e. perform a "Cold Start"	System messages will indicate the cause of system generated auto start

Diagram


3GS SPEX V4.00-16 23 JULY 99
3GS OSEX V4.00-16 23 JULY 99
FULL
CLEAR RAM ?
YES
CLEARING RAM
Key in Name/
Address (see Typing Text section)
ENTER NAME/ ADDRESS
^
#
...for Cold Start only
WARM START
COLD START
INITIALISE NODES ?
NO
CHECKSUM = 181C80H
YES
YES
OFFLINE NODES x -> x
3 NODES : ID = 0
NO
NO
ONLINE NODES x -> x
where x = on line nodes
YES
OFFLINE INPUTS y -> y
NO
NO
ONLINE INPUTS y -> y
where y = on line inputs
YES
OFFLINE DOORS z -> z
NO
NO
ONLINE DOORS Z -> Z
where Z = on line doors
YES
PSU TYPE = 4AMP*
* may also be 3A or 8A PSU type
FRI 23JUL00 15:15:20

8 MENUS

In this chapter

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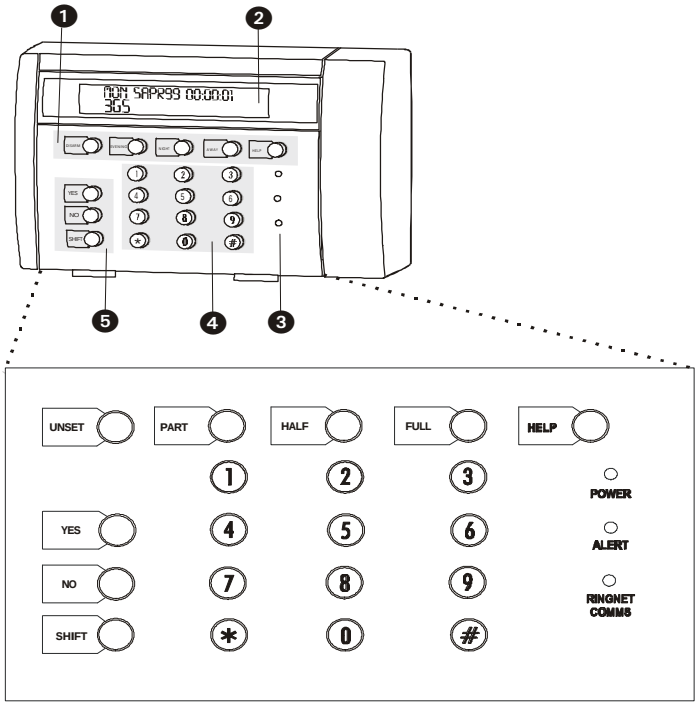
Menu Navigation

Remote Keypad Display

You use the remote keypad display (RKD) to control, program and observe the past or present state of your installation.

The keypad can be divided into the following main areas:



① **Mode Keys.** Allow you to arm (Part/ Half/Full) and disarm the system.

② **Alpha Numeric Display.** The 2 x 24 character liquid crystal display (LCD) shows system messages or prompts.

③ **Status LEDs.** The three LEDs to the right of the numeric keypad provide a visual display of the system status, as follows:

- Green: indicates system power status.
- Yellow: indicates the occurrence of a system event. An 'alert" or 'warning" message will indicate the location and nature of the event.
- Red: indicates the status of the communications network.

	LED Steady	*LED Flashing*
Green	Mains supply present ●	Mains supply failure
Yellow	System warning message ●	System alert message
Red	Communications lost ●	Communications OK (flashes *on* briefly every 2-3 seconds.)
	Communications lost line 1A 1B ●○ (flashes off *once* every 2-3 seconds.)	
	Communications lost line 2A 2B ●○○ (flashes off *twice* every 2-3 seconds.)	

④ **Numeric Entry Keys.** You use the numeric keypad to enter your user code and to program the system.

⑤ **Menu Navigation Keys.** Allow you to navigate through the menu structures.

Security

The 3GS contains a number of features to protect the system from unauthorized access or attempts to break the codes.

The system allows 90 seconds for a valid code to be entered. If three or more incorrect codes are entered during this time, the following alert message is displayed and logged:

```
FRI 30JUL99 12:15 PM
ID SECURITY ALERT
```

If one incorrect code is entered and no subsequent valid code is entered within the time-out period the following message appears:

```
FRI 30JUL99 12:15 PM
CODE ENTRY TIME OUT
```

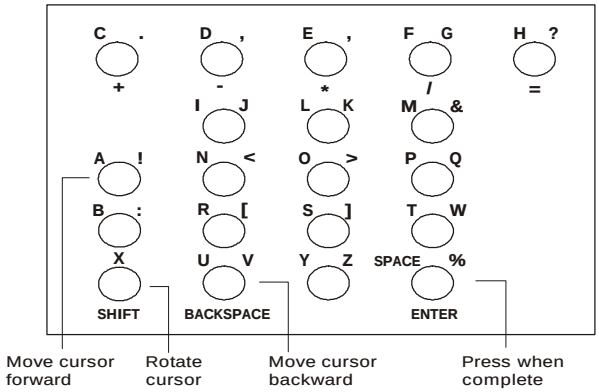
Note *Your actual numeric code is never shown (for security reasons).*

Typing Text

You may need to enter text when editing zone descriptions, node descriptions, user names and so on. There are two ways you can do this:

- Via either the RKD or HHT keypad
- Via software (such as 3GS+, Panelman or PC)

An overlay card is provided to help you locate the character position for each key when entering text via the keypad:



To enter text via a keypad:

1 The cursor will be in character position 1: Λ

2 Place the letter overlay card on the keypad.

3 Locate on the overlay the character you wish to enter.

For example: L K 2

4 Select the appropriate character.

Most keys will have three characters when in typing mode. The orientation of the cursor governs which character is selected:

Λ selects “2”.

selects “L”.

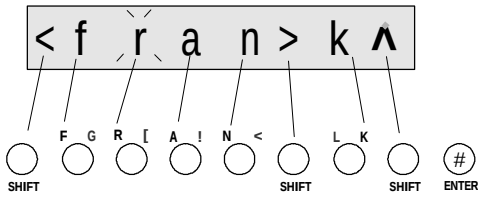
selects “K”.

5 Continue entering the remainder of the text entry.

To delete characters

With the cursor in position 1, use the * key to move the cursor back over the characters:

When the cursor is over the character to be deleted, hold down the Shift key.



The keypad beeps as it deletes characters to the right.

With the cursor in the Λ character position, press # to complete text entry.

Selecting options

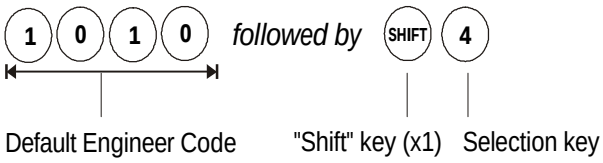
The 3GS system options can be divided into installer options and user options. The installer options, detailed overleaf, are primarily system setup and maintenance options, and the user options, also detailed overleaf, are system operation options. The master user is given all the operational options by default. The master user assigns an appropriate number of options to the general users depending on their security requirements **[*See page 8-4: Menu Options*]**.

There are two methods of selecting an option:

- Direct Access. Allows you to select an option directly.
- Help Menu Access. Allows you to locate an option by scrolling through the available options.

Direct access

You can select an option directly by entering its particular code. For example, to select the Node Configure option enter:

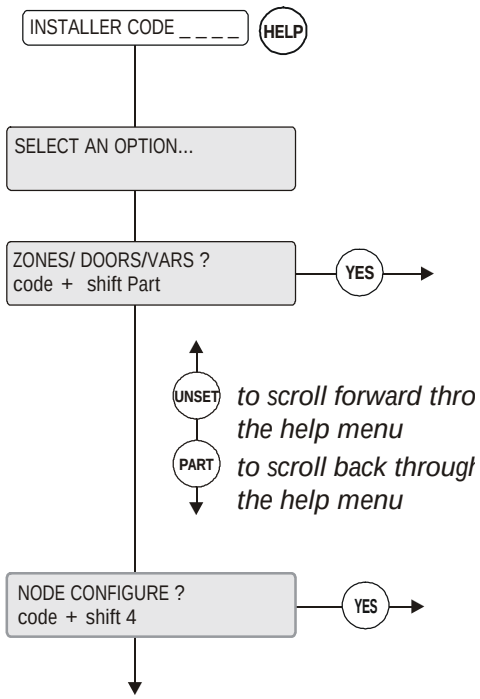


This will select the option:

NODE CONFIGURE

For certain options you need to press the Shift key twice before pressing the selection key.

[*See page 8-4: Installer and Master menu options*].



Additional menu options

The Help menu allows you to scroll through all the options available to you using the following keys on the keypad:

- **UNSET** to scroll forward through menu options.
- **PART** to scroll back through menu options.
- **YES** to select an option.
- **NO** to exit the menu.

Only options which have been assigned to you are displayed. You have 90 seconds in which to make a selection.

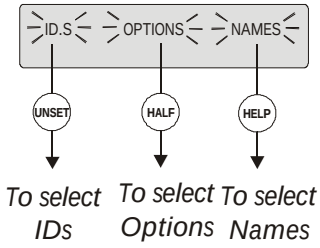
Scrolling through options

Use the following keys when viewing options that do not require input:

- **UNSET** to scroll forward.
- **PART** to scroll back.

3-way display options

Certain displays will present three flashing sub-options. Sub-option selection is determined by the option's position on the display:



- The UNSET key selects the left option.
- The HALF key selects the middle option.
- The HELP key selects the right option.

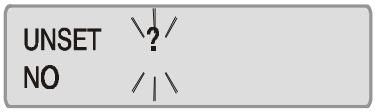
Answering a question

On the following display, the flashing "?" indicates that the system is waiting for an answer:

Press YES or NO as required.

Pressing # (or any key other than YES) is interpreted as a NO by the system.

In some cases an option may be presented with YES or NO displayed underneath, like this:

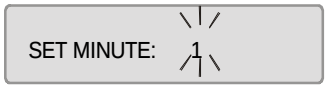


Select YES or NO as appropriate.

The system will automatically move to the next option. When complete, press # to accept all data entered.

Entering numerical values

In a display where you have to enter a number, a flashing digit will prompt entry, like this:



You can enter a number using two methods:

- **Enter the number directly.** For example, press 2, press 0, then #. If you make a mistake (before pressing #) press * to move backward, and YES to move forward, then re-enter the correct digits followed by #.
- **Scroll through numbers.** Use the two keys denoted as + (UNSET) and - (PART) on the overlay. The plus key will increment the number, while the minus key will decrement it.

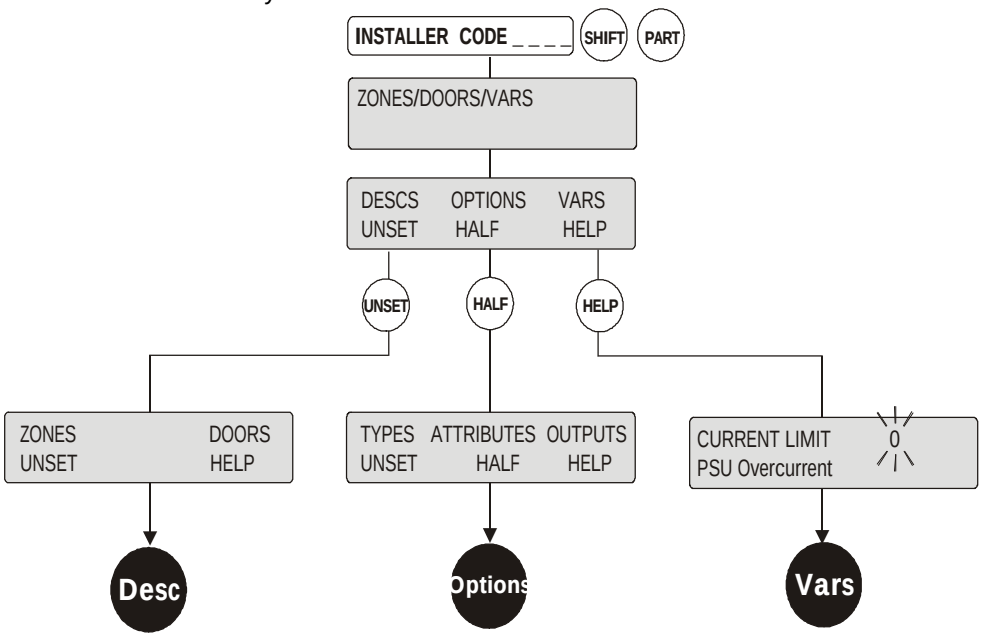
Installer menu options

Option	Shift Key	Selection Key	General	Intruder	Access	Radio
Zones/Doors/Vars	x1	PART	✔	✔	✔	
Node Configure	x1	4	✔	✔		
Radio PA Setup	x2	9				✔
Service Mode	x1	YES		✔	✔	
Radio PA Test	x2	0				✔
Setup Cards	x2	6			✔	
Card Information	x2	4			✔	
Door Configure	x1	3			✔	
Time Zone Setup	x2	5			✔	
Door Group Setup	x2	3			✔	
Manual Door Control	x2	7			✔	
Edit Levels Database	x2	8			✔	
Setup SIA	x2	NO	✔	✔		
Soak Mode	x2	2		✔	✔	
Disable Mode	x1	NO		✔	✔	
Output Test	x1	5	✔	✔		
System Log		YES	✔	✔	✔	✔
Print All Reports	x1	6	✔	✔	✔	✔
Set Date/Time	x1	9	✔			
Set Data Format	x1	8	✔			
Force Call	x1	FULL	✔			
Set Up DM1200	x2	FULL	✔			
User Setup	x1	UNSET	✔	✔		
Area Setup	x1	2		✔	✔	
Edit Output Database	x2	HELP	✔	✔	✔	✔
Radio PA Assign	x2	*				✔
Time Advance	x2	YES	✔			
Literal Edit	x1	HALF	✔			
Command Mode	x1	1	✔			
Soft Start	x1	7	✔			
Unset/Reset		UNSET		✔		
Accept All Alerts		0		✔	✔	✔
Edit Time Commands	x1	*	✔			
Inhibit Mode		NO		✔	✔	

Master menu options

Option	Shift Key	Selection Key	General	Intruder	Access	Radio
Unset/Reset		UNSET		✔		
Part Set		PART		✔		
Half Set		HALF		✔		
Full Set		FULL		✔		
Coded Reset	x2	1		✔		
Mode 5		5	✔			
Mode 6		6	✔			
Mode 7		7	✔			
Mode 8		8	✔			
Mode 9		9	✔			
Set Date/Time	x1	9	✔			
Change ID	x1	0	✔	✔		
User Setup	x1	UNSET	✔	✔		
Area Setup	x1	2		✔	✔	
Radio PA Assign	x2	*				✔
System Log		YES	✔	✔	✔	✔
Radio PA Test	x2	0				✔
Setup Cards	x2	6			✔	
Card Information	x2	4			✔	
Manual Door Control	x2	7			✔	
Hour Adjust	x1	HELP	✔			
Accept All Alerts		0	✔	✔	✔	✔
Edit Time Commands	x1	*	✔			
Inhibit mode		no		✔	✔	

Function: This menu allows you to assign zone types and attributes to the system zones and doors and to set the system variables.



Additional Information

Zones and doors must be configured with the required zone types and attributes for the intruder system to operate correctly. Refer to the details of these types and attributes described later in this menu.

DESC: [See Page 8-7]

For ease of zone and door identification each zone and door on the system should be given a description.

OPTIONS: [See Page 8-8]

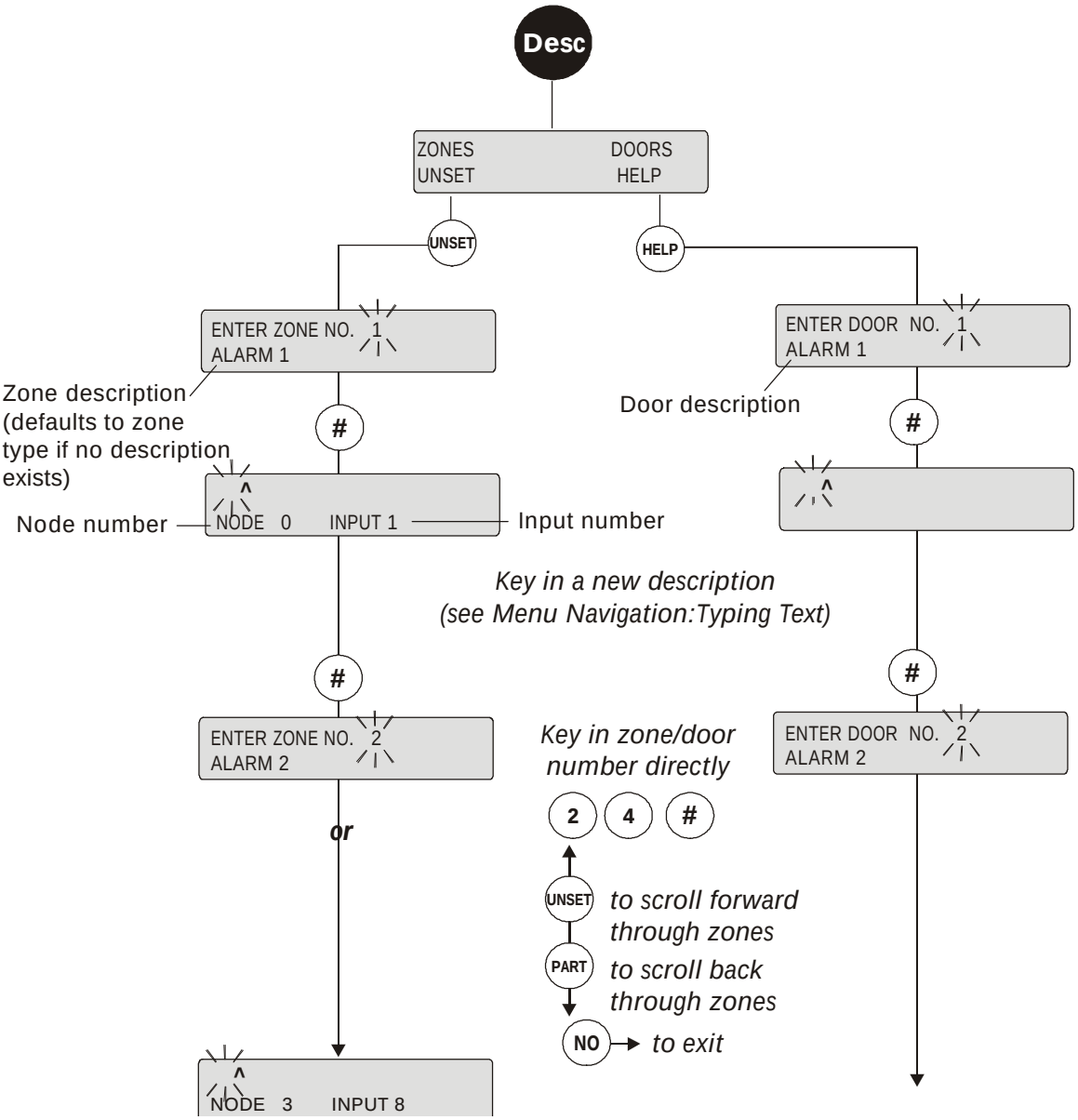
This menu is used to setup zone and door types and attributes.

VARS: [See Page 8-12]

System variables including exit/entry times can be programmed in this menu. Details of all variables are given in the variables table on page 8-13/14.

menu ZONES/DOORS/VARS ➲ DESCRIPTIONS

Function: This submenu allows you to assign an alphanumeric description of up to 24 characters for each zone and door input.

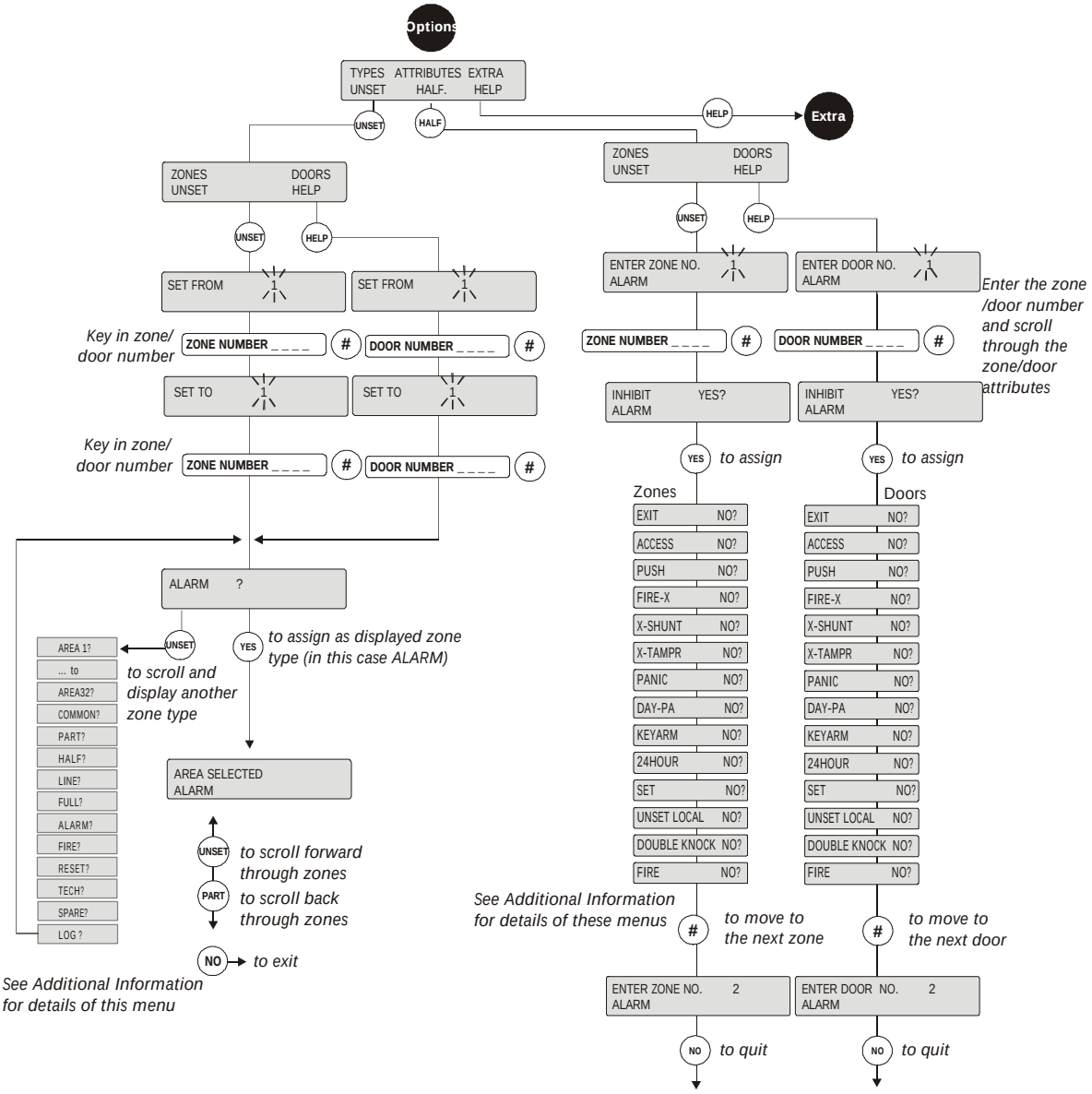


Additional Information

When you choose the DESCS option, the top line of the first display requests a zone/door number. The bottom line shows the current zone description. However, if no description exists, the zone type is displayed (for example, after a cold start). To insert text from the 3GS RKD, refer to *Menu Navigation Typing Text.* Alternatively the zone and door descriptions may be entered using the Europlex PC product range (3GS+, Panelman, etc.). It is a good idea to precede the zone/door description with the zone/door number (for example, `1-RECEPTION DOOR`).

menu ZONES/DOORS/VARS ➲ OPTIONS

Function: This submenu allows you to set types and attributes for zone and door inputs (types and attributes are described in the following pages).



Additional Information

EXTRA: [See Page 8-15]

This menu is for future use and will be used to expand the zone and door functions.

Zone Types

Zones will report input activity differently depending on the zone type assigned. For example, a zone set as an alarm type zone will report an input going open as a full alarm in all modes other than Unset/Disarm.

Some zone types are specifically designed for use with certain systems.

The behaviour of many zones is based on that of the most common zone type Alarm, so it is advisable to use this type as a reference. For all zone types, a discon (disconnected) or tamper alarm activation is reported in the same fashion as an Alarm type zone.

Area -1 to Area -32	Available only when the number of areas is greater than 0. Area zones are instant Alarm zones which are active when the relevant area is set/armed. When activated, these trip the intruder alarm output for the relevant areas
Common	Available only when the number of areas is greater than 0. The Common zone is active when the common area is set/armed, i.e. when all other areas are set/armed. All attributes are assignable to common zones
Part/Half/Full	Available only when the number of areas equals 0 and the system operates as a standard 3GS installation. The Part zone is active in part and full modes. The Half zone is active in half and full modes. The Full zone is active only in full mode. Half, Part and Full zones cannot be assigned attributes.
Line	This is a line monitoring zone. Usually used in conjunction with a telephone line output from a digital dialler or direct communications device. When opened during a full alarm this will shorten the bell delay to 1 second.
Alarm	Available only when the number of areas is equal to 0. This is the *normal* Alarm zone and is active in all modes except unset/disarm. Any open, discon or tamper activity will cause a full alarm when set/armed.
Fire	The Fire zone operates 24-hour fire monitoring independent of normal panel operation. When opened the Fire zone trips the 3GS system output number 5, displays warning messages, and automatically opens all doors.
Reset	The panel may be programmed to require an installer reset, after an alarm, before the panel may be re-armed. This is normally performed by an installer entering his code at the panel. An alternative to this is to open 'reset' zone, which perform the same function.
Tech	When opened, the Tech zone sets an output corresponding to its own number, so that when Tech zone 100 opens, it will trip output 100. The output resets when the zone closes. Installers should ensure that the output corresponding to the Tech zone is not already assigned to another function.
Spare	This zone type has effectively no function - opening and closing of the zone does not cause any activation. This type has been added to allow the installer initialise a zone on the system but without having to assign it as a specific type.
Log	This zone will log a state change in any mode. Log zones can be used for monitoring.

Zone attributes

Zone attributes allow you to further customise the behaviour of zones. 3GS allows for up to 16 different attributes. The following attributes are applicable to areas 1 to 32, Common, and Alarm zone types. Some attributes are applicable to both zones and doors, some to zones only and some to doors only. With the exception of the Inhibit attribute, only one other attribute should be assigned per zone.

Inhibit	This attribute allows the zone in question to be inhibited. Must be used in conjunction with Inhibit mode. (Zones and Doors)
Exit	Applying the Exit attribute to an alarm or area zone will change it to an exit zone for that area/system. Opening the zone while the area/system is set/arm will start an entry timer.
Access	Usually for movement detectors on the exit/entry route. Behaves as an Exit zone during exit/entry and as a Alarm zone otherwise. (Zones and Doors)
Push	The Push attribute is used for push-button arming of the area outside the final exit, avoiding the need to wait for the final timer to expire before the buzzer sounds to confirm arming of the area. The Push function is enabled by setting the final set variable to YES (giving an infinite exit time until the Push button is pressed). Assign to an area zone to allow setting/arming of the area, or to a Common or Alarm zone to allow setting/arming of the whole system. (Zones)
Fire-x	To be used with fire exit doors which should not be opened during the day. Outputs 177 to 208 and Common 209 for relevant areas (Fire Exit) are dedicated to this attribute. When the area is unset/disarmed and the Fire-x zone is opened the output is triggered, the buzzer sounds and an alert message is displayed. When the area is set/armed, the zone will behave as a normal area zone. (Zones and Doors)
Xshunt	The Xshunt attribute when applied to a zone will cause the next zone in line to be shunted or inhibited when the area is unset/disarmed. For example, if applied to zone 23, when opened it will shunt or inhibit zone 24. Usually used in conjunction with a Fire-x zone. (Zones)
Xtampr	The Xtampr attribute will cause the zone to behave as a bell tamper when the system is unset/disarmed, firing the strobe outputs (51 to 59) and external bell outputs (41to 49) for relevant areas. (Zones)
Panic	The Panic attribute is used in conjunction with 24-hour panic buttons. Activation of a zone with the Panic attribute assigned will trip and generate output 3 and an alert message, but no audible system alarm. (Zones)
Day-PA	This attribute is similar to Panic but operates in unset/disarm mode only. When assigned to an area zone which is then opened (for example, a self-locking panic button), Day-PA generates a silent alarm. (Zones and Doors)
Keyarm	If a zone has been assigned as Keyarm then when it opens it will toggle the area's status. If the area is unset/disarmed and you open the zone the area will attempt to set/arm. If the area is set/armed (or setting) and you open the zone the area will unset/disarm. ***Note*** *The Common and Alarm zones will set/arm or unset/disarm the full system.*
24-Hour	If a zone has been assigned the 24 Hour attribute then it is active at all times and will cause a full alarm if opened in any mode.
Set/Arm	Assignable to zone for system arming via valid card entry and push button activity. (Zones)

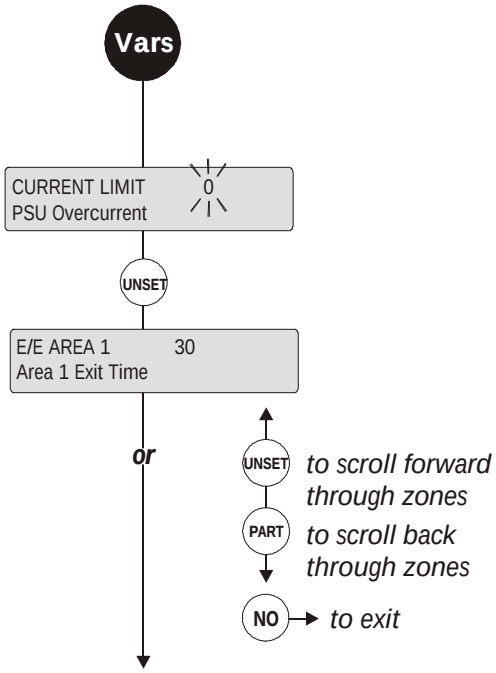
Unset Local	To be used with Doors/Zones which should not be opened during the day. When the area is unset/disarmed and the Zone/Door (with unset local attribute) is opened the buzzer sounds, output 101 turns on, and an alert message is displayed. When the area is set/armed, the zone will behave as a normal area zone. (Zones and Doors)
Double Knock	Normally assigned to troublesome detectors. If two armed Double Knock zones are triggered (or the same one activates twice) during the Double Knock period then an alarm is generated. Double Knock time is set in seconds. It requires 2 open actions within that time. All open Double Knock zones are logged when the system is set/ armed. (Zones)
Fire	The Fire attribute effectively creates a *fire* zone. The Fire attribute will ensure 24-hour fire monitoring, independent of normal panel operation. When the attribute is set and the zone is opened, the system trips output no. 5 ('Fire') and warning messages are displayed. ***Note*** *All doors are automatically unlocked when a fire alarm occurs. To prevent certain doors from opening, use the Door Open Inhibit option.*

menu ZONES/DOORS/VARS ➲ VARIABLES

Function: The Variables submenu allows you to view or adjust the system variables (these control timers etc).

Most variable timers are set in seconds between 0 - 9999 (Soak Days being the Exception). 0 will give an infinite time.

You can display each variable in sequence and adjust and save the setting by entering a value directly or by pressing the Unset/Part keys. Press the NO key to exit at any stage (except when setting a YES/NO variable). You will then be given the option to print the current variable settings.



See Variables table

Additional Information:Variables Table

Current Limit	Sets the power supply current limit in mA (0 to 9999) which when exceeded, will generate an alert warning. For example, the limit for a 3A PSU could be set to 2000mA, 3000mA for a 4A PSU, 6000mA for a 8A PSU. When set to 0, PSU overcurrent will not be monitored.
E/E Area 1-32	Sets the entry/exit time for the relevant areas
E/E Common	Sets the entry/exit time for the Common area
Bell Delay	This is the delay period between an alarm digi-activation and the siren/bell outputs being activated.
Bell Time	The time period for which the external siren/bell (output 2) will sound for before automatic shut-down.
Modem	Set to YES if you want the modem to dial out on alarm. Compatible with ED2000 or Eurodial 2000 PC software.
Alarm Display	This variable controls RKD display options in Full Set/Full Arm mode (the default is 0). **0** = Display always blank **1** = Alert messages only **2** = Alert & warning messages **3** = Date & Time, Open Zones and Alert/Warning messages displayed **4** = Open Zones (plus description) are displayed.
Output Log	This variable controls the logging of outputs. If set to 1, any output which changes state is logged. When set to 0, output activity is not logged. (Note: you may also set this variable to 2 thereby preventing outputs being logged when the system is being unset/disarmed).
Arms	Set to YES if using the Arms Network system.
Soak Test Days	The number of consecutive days for which a Soak Test is active.
Service Reset	This facility is incorporated so that after an alarm activation a service company installer must attend the installation and reset this variable to 1 before the system may be set/armed again. An alarm in set/arm mode will increment the variable to 2 and cause the message 'CALL SERVICE' to be displayed. If set to 0 then a service visit is not required after an alarm activation. Service Reset can be over-ridden by Coded Reset **[*see page 9-13: Coded Reset menu*]**.
Suspicion Audible	If set to YES, an RPA Suspicion event will also cause the keypad to beep. For use with a Radio PA handset.
Delayed Raid	Sets the time before a Delayed raid will be activated, as well as the Raid Cancel time period. For use with a Radio PA handset.
Final Set	If this variable is set to YES, an infinite exit time is started until a relevant zone with the PUSH attribute is opened. The system will then arm 3 seconds later and the exit buzzer will stop.
Local Alarm	**0** = Full alarm; **1** = Local alarm (buzzer and internal bells); local alarm causing alert message displays only; **2** = External and internal bell outputs are reset by accepting alerts.
Detector Reset	When an area is unset/disarmed, this variable determines whether the detector reset outputs will trigger. Used to unlatch any detectors that have previously latched.
Verify Time	If, after an alarm activation, a second zone triggers (during this Verify Time) then the Verified Alarm output is tripped.

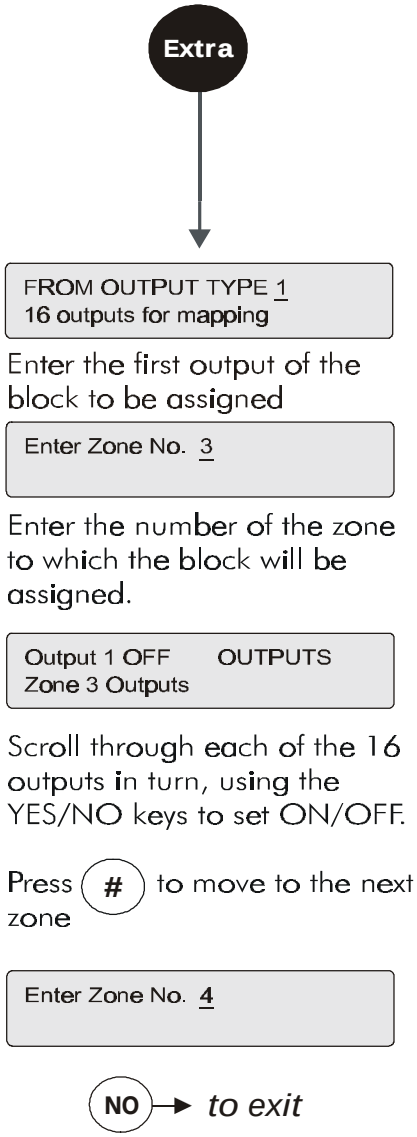
Func. Enable Time	Cards and doors may now be assigned functions such as SET/ARM and UNSET/DISARM. Typically two actions are required in order for the function to be performed. For example, the software can be programmed so that a card can *set/arm an area* by first swiping at the exit reader and then swiping at the entry reader. The user has a limited amount of time to perform both of these actions, and this time is known as the FUNC. ENABLE TIME. (Default - 10 secs)
Multi-Area setting/arming	Keypads are now assignable to *areas* so that *area status* and area keypad buzzer are relevant to keypads in that area only. An area may only be set/armed and unset/disarmed from a keypad, which is assigned to that area. However there may be some instances where a user may wish to set/arm or unset/disarm an area from another area in the same building.
Retrigger Variable	If set to YES then the bells/sirens will resound if a second zone activation is detected at the end of the bell time. If set to NO (default) then the external bells will only trigger once.
Set Door Protect	If the Set Door Protect variable is set to NO then any valid card that has no function assigned will be granted access if the area is set/armed. This is to allow access to cards with no functions assigned. If this variable is set to YES then only valid cards with the unset/disarm function will be granted access. Cardholders who normally unset/disarm the system must be given the unset/disarm function to be allowed access to the building when the system is set/armed otherwise access is denied. Defaults to NO.
IR Enable Time	When an installer enters this code the infra red comms. on the nodes is enabled for this time period.
Common Area?	Set to NO if system has more than one area but there is no common area. Once selected, as NO the system will not display common area messages. If set to YES, common area messages are displayed.

Zone Output Mapping

A block of up to 16 outputs can be mapped to a single zone - in a typical configuration this would enable a number of camera outputs at different points within an area to trip at the same time, once the zone is activated.

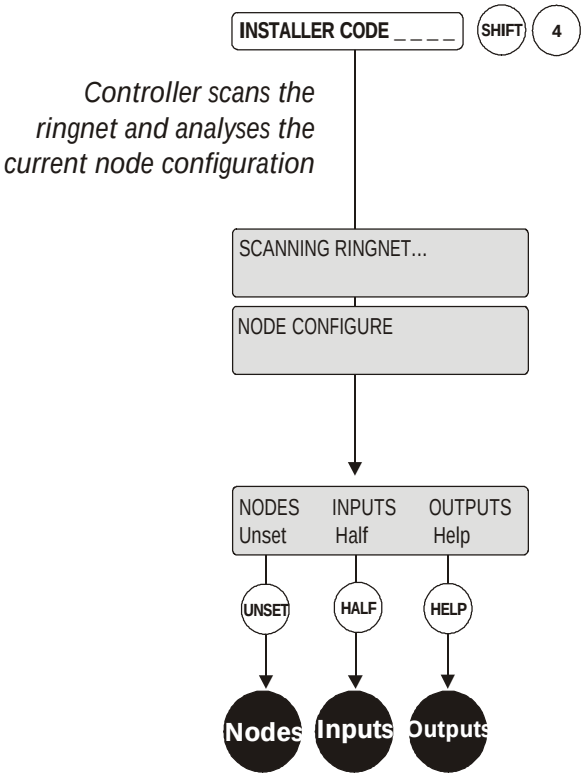
Any sequential block of outputs can be mapped - e.g. outputs 1 to 16, 20 to 25, 50 to 53, etc.

Note *This menu is for future use.*



Function: This menu allows you to program and view the configuration of the Ringnet. You can find nodes, examine their status, change their descriptions, change their IDs and set up the RKD node backlight, contrast, etc.

In addition, you can view or change the mapping of zones to node inputs and to view or change the mapping of output types to node outputs.



Additional Information

The Node Configure menu has the following submenus:

Nodes - Information - Find: [See Page 8-17]

- Use this option to scroll through the nodes and view node information and sound buzzer.

Nodes - Inputs: [See Page 8-21]

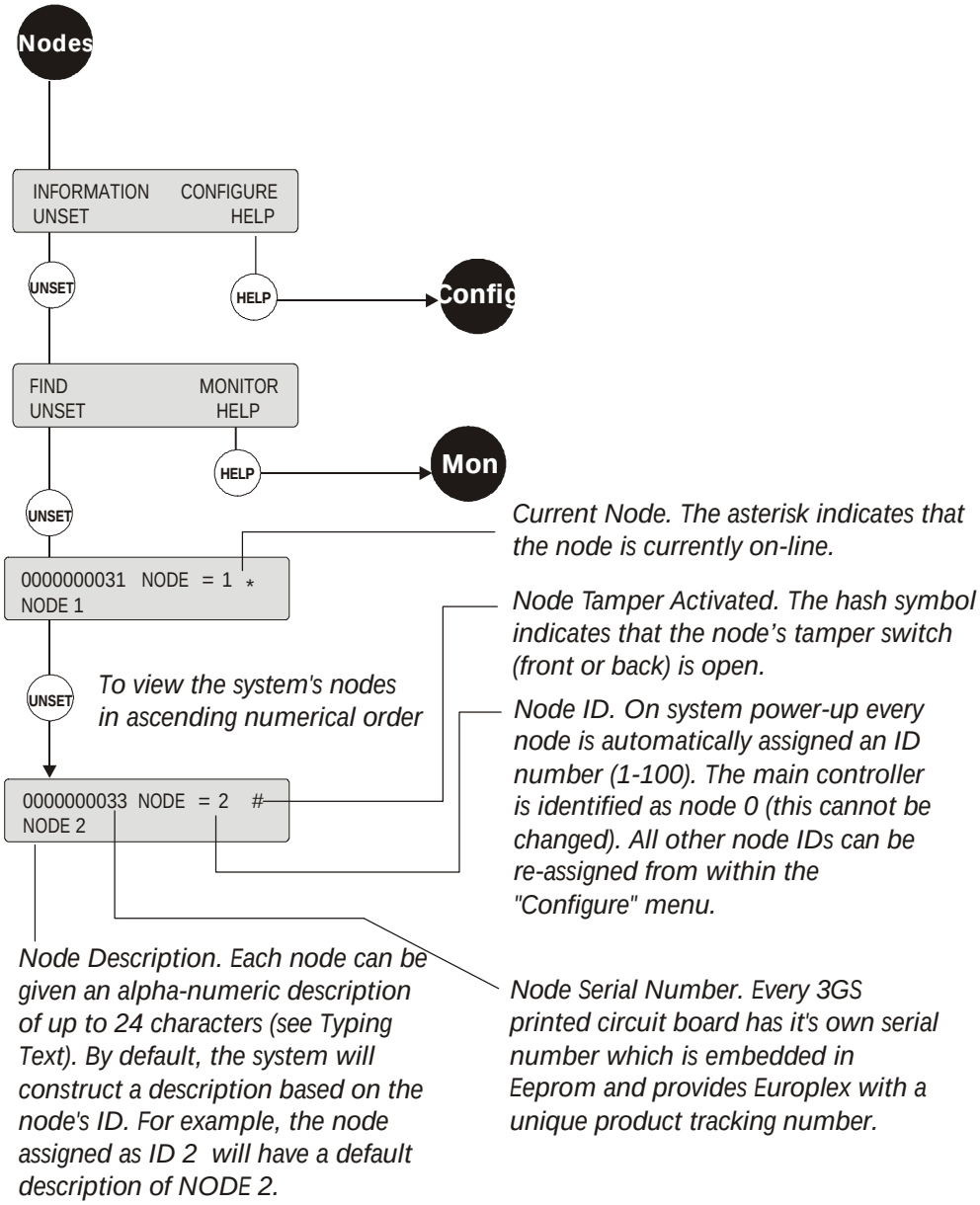
- Allows you to clear input zone assignments from a node; manually re-assign zone assignments to a new input or node; automatically re-assign zone assignments to all inputs.

Nodes - Outputs: [See Page 8-22]

- Allows you to clear output assignments from a node and to manually reassign outputs to a node.

menu NODE CONFIGURE ➲ NODES ➲ INFORMATION ➲ FIND

Function: The Find submenu allows you to scroll through the nodes and view ID information. When a node is viewed on the display, its on-board buzzer sounds to identify the nodes location.



Additional Information

Nodes - Information - Monitor: [See Page 8-18]

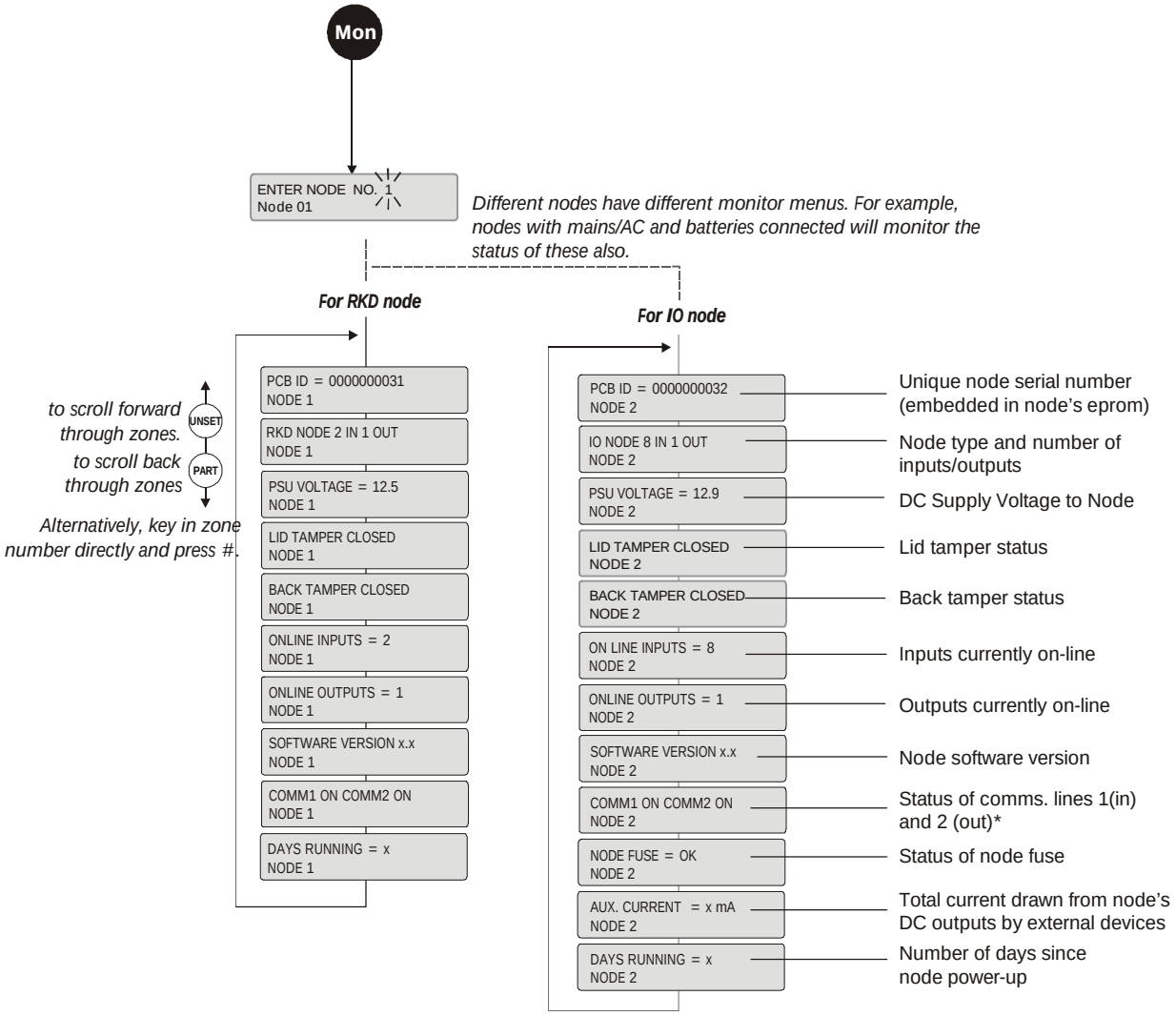
- Use this option to monitor and view a node's current operational status, input/output connections and so on.

Nodes - Configure: [See Page 8-19]

- Allows you to manually or automatically assign or view a node ID; give nodes a text description; adjust the RKD settings.

menu NODE CONFIGURE ➲ NODES ➲ INFORMATION ➲ MONITOR

Function: The Monitor option allows you to monitor a node's current operational status. The data is displayed in real time. For example, if you activate a tamper switch of the monitored node, the "Lid Tamper" message displays to reflect this.

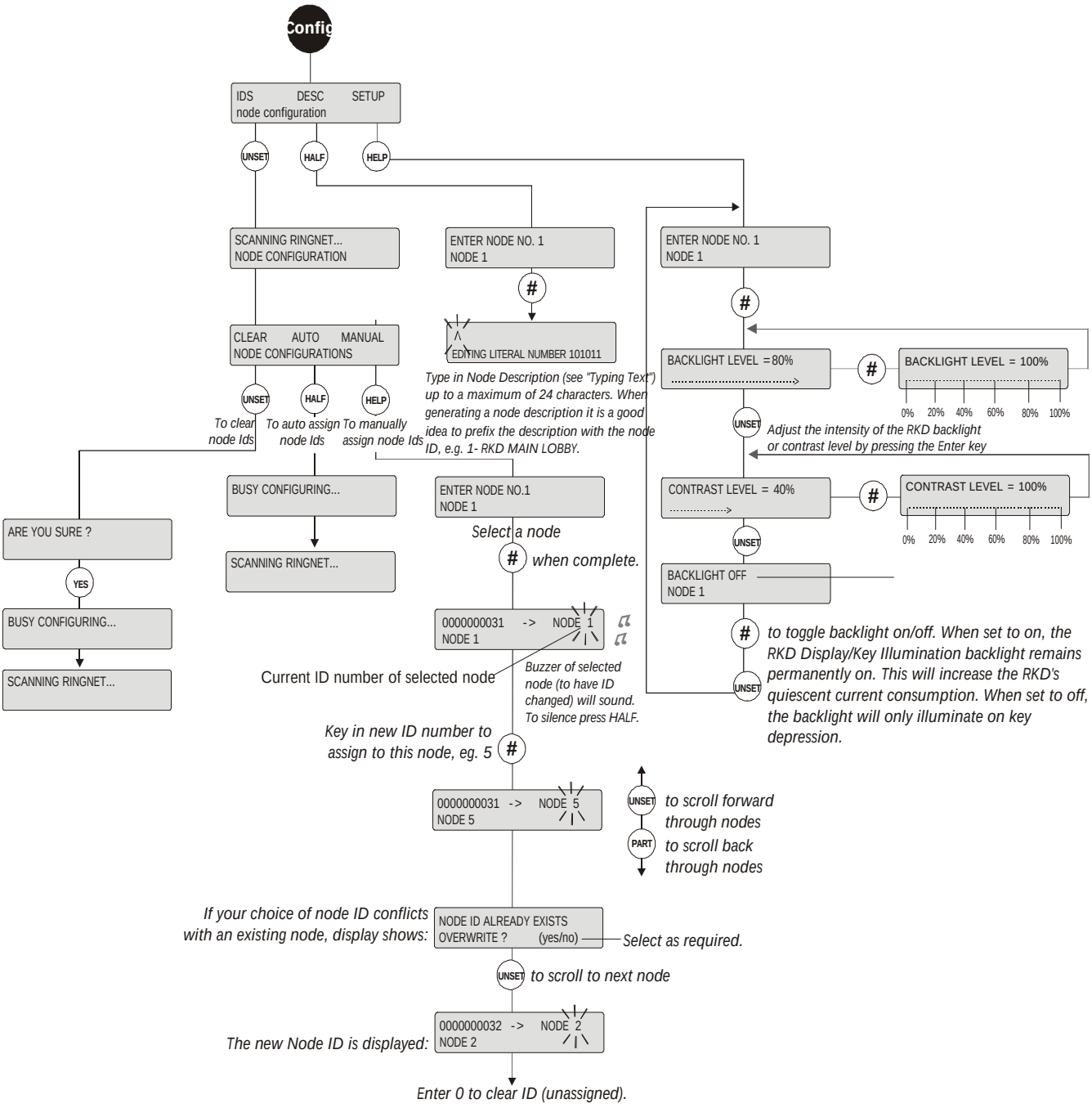


**This display indicates the status of the node's Ringnet communication ports. Comm 1 refers to port 1A/1B (in), Comm 2 refers to port 2A/2B (out). When a port's status is ON, data is being transmitted successfully.*
If a port displays as OFF, the node has detected a communications failure and has temporarily shut down the port to allow communications to continue on the other port. A communications failure can be due to either communication lines swapped or interference. After a short period the node will re-open the port to check for communications and will continue to operate in this fashion until communications have been restored.

Scroll through the on-line nodes by pressing the UNSET or PART keys. Note that the 3GS Controller board may be monitored by selecting node 0. Press NO at any stage to exit the menu.

menu NODE CONFIGURE ➲ NODES ➲ CONFIGURE

Function: The Configure submenu allows you to manually or automatically assign or view a node ID; give nodes a text description; adjust the RKD settings.



The three options on the display are:

IDS Allows you to manually or automatically assign or view node IDs. This has the submenus:

- **Clear** Clears input's zone assignments from one or more nodes. The buzzer sounds continuously and an Alert message is generated to indicate the inputs are disconnected and the node is lost. The system provides the option to clear zone assignments from an individual node or from all nodes at once.
- **Auto** Automatically re-assign zone assignments.
- **Manual** Manually re-assign zone assignments to a new node or input.

Description Allows you to enter a node description.

Setup Allows you to adjust the node settings.

menu NODE CONFIGURE ➲ INPUTS

Function: The Inputs submenu allows you to clear input zone assignments from a node, manually re-assign zone assignments to a new input or node and to automatically re-assign zone assignments to all inputs. All inputs must be assigned zone assignments.

The three options on the display are:

Clear

Allows you to clear all node ID assignments and to put inputs into a DISCON state. You can clear input zone assignments from an individual node or from all nodes at once.

Important *Clearing an input's assignment means that all zone information that has been assigned to that inputs will be lost and therefore EOL input activity will* ***not*** *be reported.*

Auto

Allows you to automatically assign zone numbers to unassigned node inputs in ascending sequential order. Inputs other than those that are in a DISCON state will have zones assigned. If some inputs have already been assigned zones, selecting this option can produce a non-sequential series of zones on a node.

For example, if on a node, inputs 1-6 are assigned as zones 9-14 and inputs 7-8 are unassigned, by selecting Auto the system will search for the highest available zone numbers to assign to inputs 7 and 8. If the highest available zones are 26 and 27, the zone sequence on this node will read 9, 10, 11, 12, 13, 14, 26, 27.

Manual

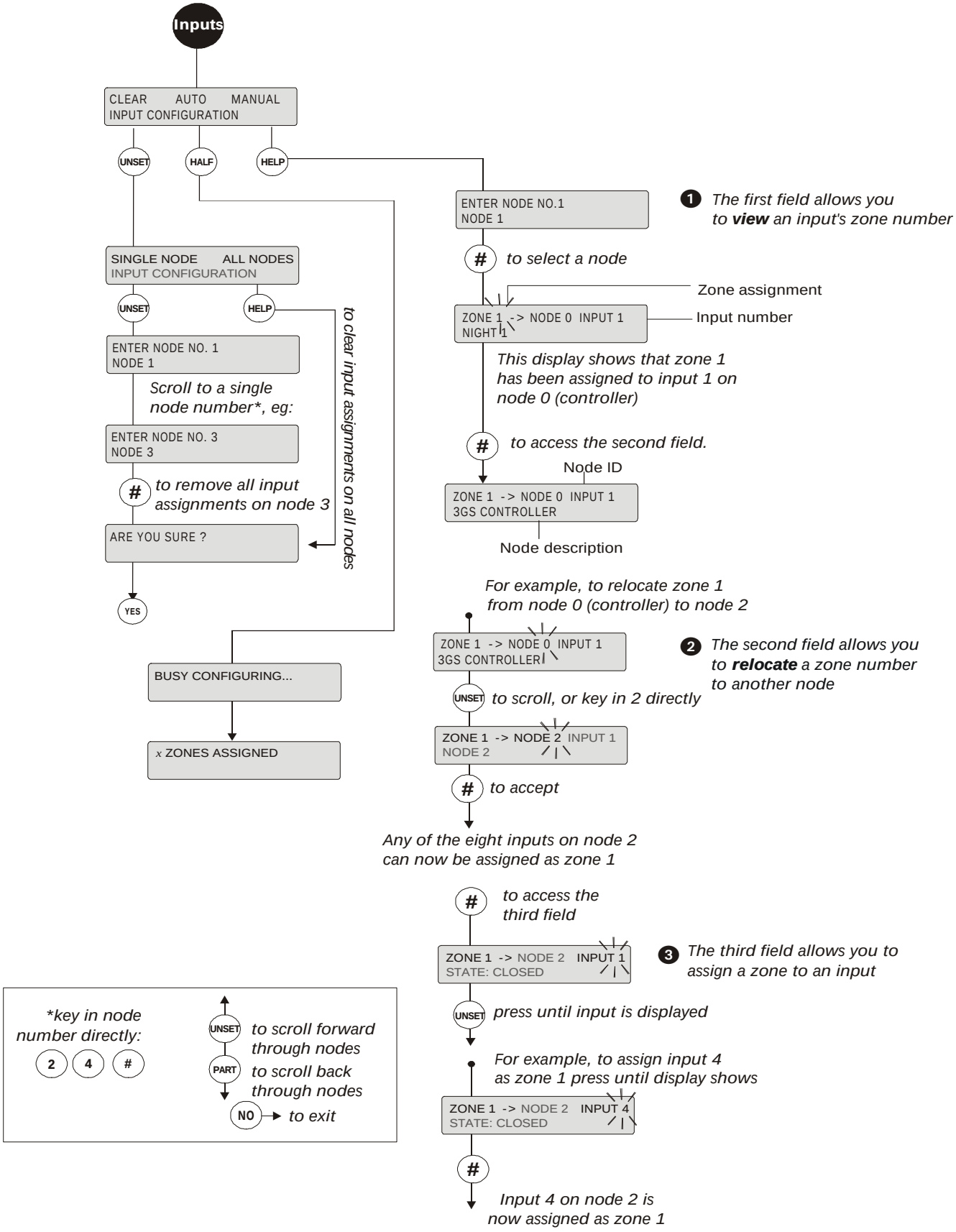
Allows you to manually re-assign zone assignments to a new node or input. Selecting Manual provides three fields of data, as follows:

1 Allows you to view an input's zone assignment.

2 Allows you to relocate a zone to another node.

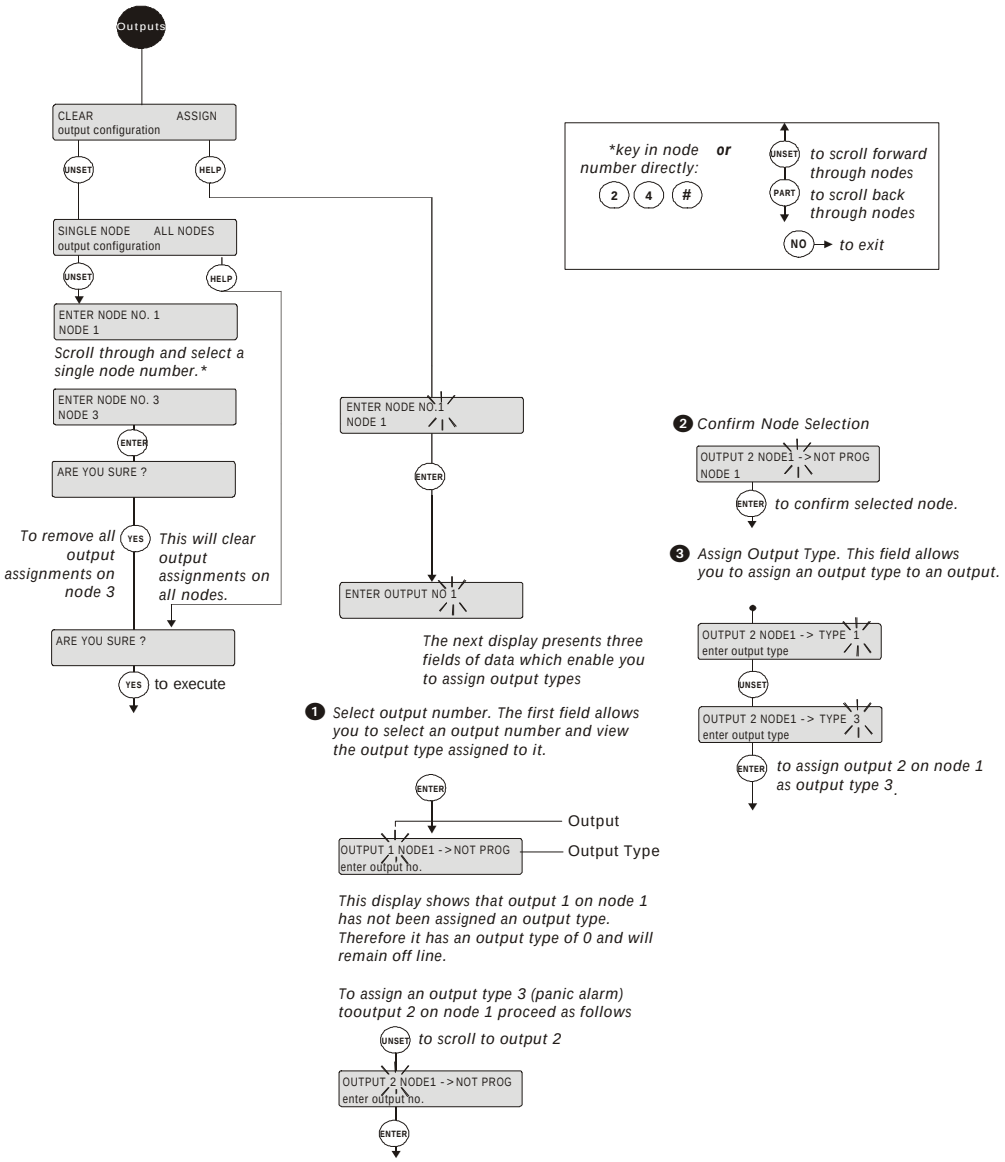
3 Allows you to re-assign a zone to an input.

Diagram


Inputs
CLEAR AUTO MANUAL
INPUT CONFIGURATION
UNSET
HALF
HELP
SINGLE NODE ALL NODES
INPUT CONFIGURATION
UNSET
HELP
ENTER NODE NO. 1
NODE 1
Scroll to a single node number*, eg:
ENTER NODE NO. 3
NODE 3
to remove all input assignments on node 3
ARE YOU SURE ?
YES
to clear input assignments on all nodes
BUSY CONFIGURING...
x ZONES ASSIGNED
ENTER NODE NO.1
NODE 1
1 The first field allows you to view an input's zone number
to select a node
Zone assignment
ZONE 1 -> NODE 0 INPUT 1
NIGHT 1
Input number
This display shows that zone 1 has been assigned to input 1 on node 0 (controller)
to access the second field.
Node ID
ZONE 1 -> NODE 0 INPUT 1
3GS CONTROLLER
Node description
For example, to relocate zone 1 from node 0 (controller) to node 2
ZONE 1 -> NODE 0 INPUT 1
3GS CONTROLLER
2 The second field allows you to relocate a zone number to another node
UNSET to scroll, or key in 2 directly
ZONE 1 -> NODE 2 INPUT 1
NODE 2
to accept
Any of the eight inputs on node 2 can now be assigned as zone 1
to access the third field
ZONE 1 -> NODE 2 INPUT 1
STATE: CLOSED
3 The third field allows you to assign a zone to an input
UNSET press until input is displayed
For example, to assign input 4 as zone 1 press until display shows
ZONE 1 -> NODE 2 INPUT 4
STATE: CLOSED
#
Input 4 on node 2 is now assigned as zone 1
*key in node number directly:
2 4 #
UNSET to scroll forward through nodes
PART to scroll back through nodes
NO to exit

menu NODES CONFIGURE ➲ OUTPUTS

Function: The Outputs submenu allows you to clear output assignments from a node and to manually reassign outputs to a node.



Additional Information

All outputs must be assigned to an output type (between 0 and 255 - 0 being unassigned). The 3GS Controller defaults to having output types 1, 2, 3, and 4, for output numbers 1, 2, 3 and 4. The mapping of these output types to specific output functions is described in the Edit Output Functions Menu. This menu allows you to set up physical outputs of nodes for output control.The two submenus are:

CLEAR

This menu allows you to clear output assignments from one or more nodes.

Note *Clearing a nodes output assignment means that the output is set to type 0 and therefore will not trigger. On the Controller (node 0) output 1 is unaffected but 2, 3 and 4 are left unassigned.*

ASSIGN

This menu allows you to assign output types to node outputs. An output type determines an output's behaviour (that is, under what conditions it will trigger).

Select a node by scrolling or entering a number directly. the system will identify the number of outputs on a node and allow access accordingly. Therefore, when only a single output exists on a node, scrolling will not be possible.

menu NODE CONFIGURE ➲ RECONFIGURE RINGNET

Function: The Reconfigure Ringnet submenu allows you to add or remove a node, or replace a node (without losing any of the node's configuration).

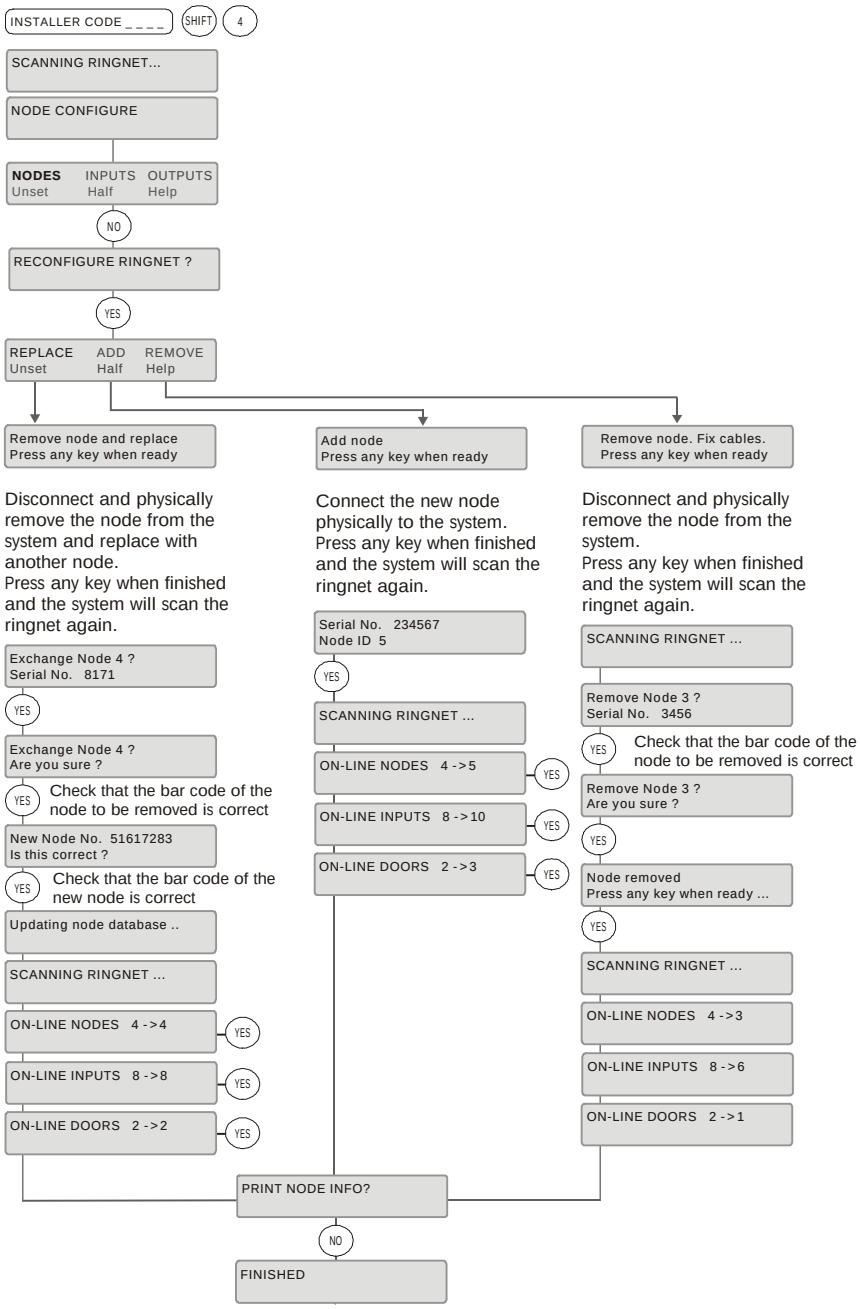
Zone descriptions, zone numbers and output types of the previous zones and outputs are automatically mapped back to the same addresses.

For example, a 3GS system with an 8 Input/1 Output node, on which 3 of the inputs are used, as system zones 4, 5 and 6, and an output is coded as Type 7. The new node will automatically be coded up with these zone numbers and output type.

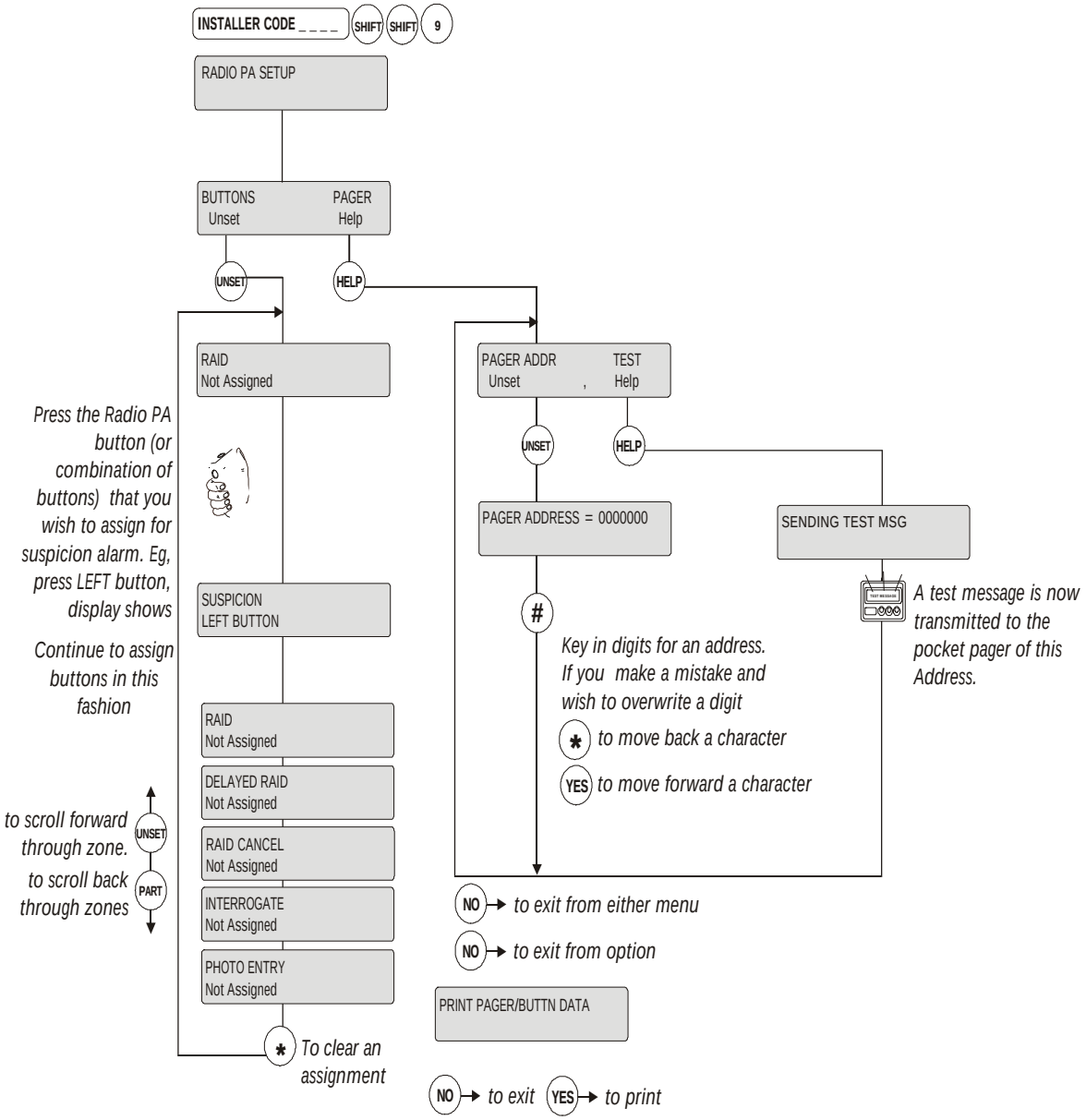
If there are extra inputs on the new node, the additional zones will be added to the end of the zone count.

Note *We recommend that you replace nodes one at a time, using a node of the same type.*

Ensure that the Ringnet is completely and securely re-connected.



Function: This menu allows you to set up the pager to transmit to pager receivers and set up the radio panic attack button units.



Additional Information

Buttons

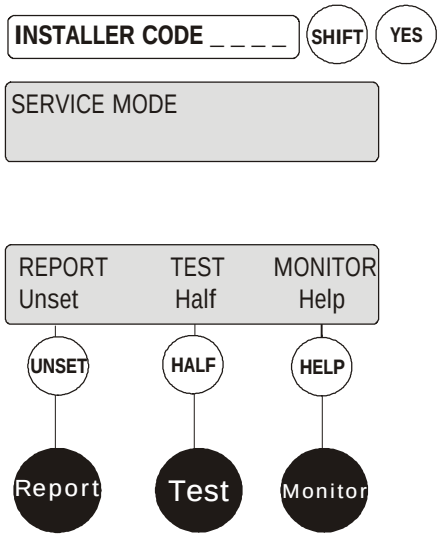
Select "Buttons" to assign a single button or a combination of buttons to an option. Up to 7 different button configurations may be obtained by pressing the buttons singularly and as combinations. This allows all six options to be assigned to a RPA. Note that these options must be granted to the RPA within the "*Radio PA Assign - Options*" sub-menu in order for the RPA to operate.

Note *The assignment that is made to one RPA button(s) is the same for every RPA unit on the system. For example, if the left button on RPA 1 is assigned as "Raid", every RPA left button is assigned as "Raid".*

Pager

Each pager unit has a unique 7-digit address. Key in this address as shown and select the test function to send a message to the relevant pager.

Function: This option allows you to check the physical operation of the system, verifying that all zone/door inputs are responding correctly. Data is available on the state of each zone/door input (whether on-line or not).



Additional Information

This menu is most useful for testing zones and doors on this system. Reports can be generated for on-line zones and doors. A complete walk test of all zones and doors can be carried out and a log of this test is recorded. Individual zones or doors can be monitored for current real time states without generating alarms.

REPORT: [See Page 8-26]

This menu allows you to view on the display or print out the state of all on-line zones and doors on the system.

TEST: [See Page 8-27/28]

This menu allows you to test all on-line zones and doors on the system.

MONITOR: [See Page 8-29/30]

This menu allows you to monitor the state of all zones and doors on the system.

menu SERVICE MODE ➲ ON-LINE REPORT

Function: The On-Line Report submenu allows you to generate an on-line report for zones or door inputs (inputs which have EOLs fitted). This report displays all on-line zones or doors connected to the panel which have states other than DISCON (disconnected).

Additional Information

To print a report

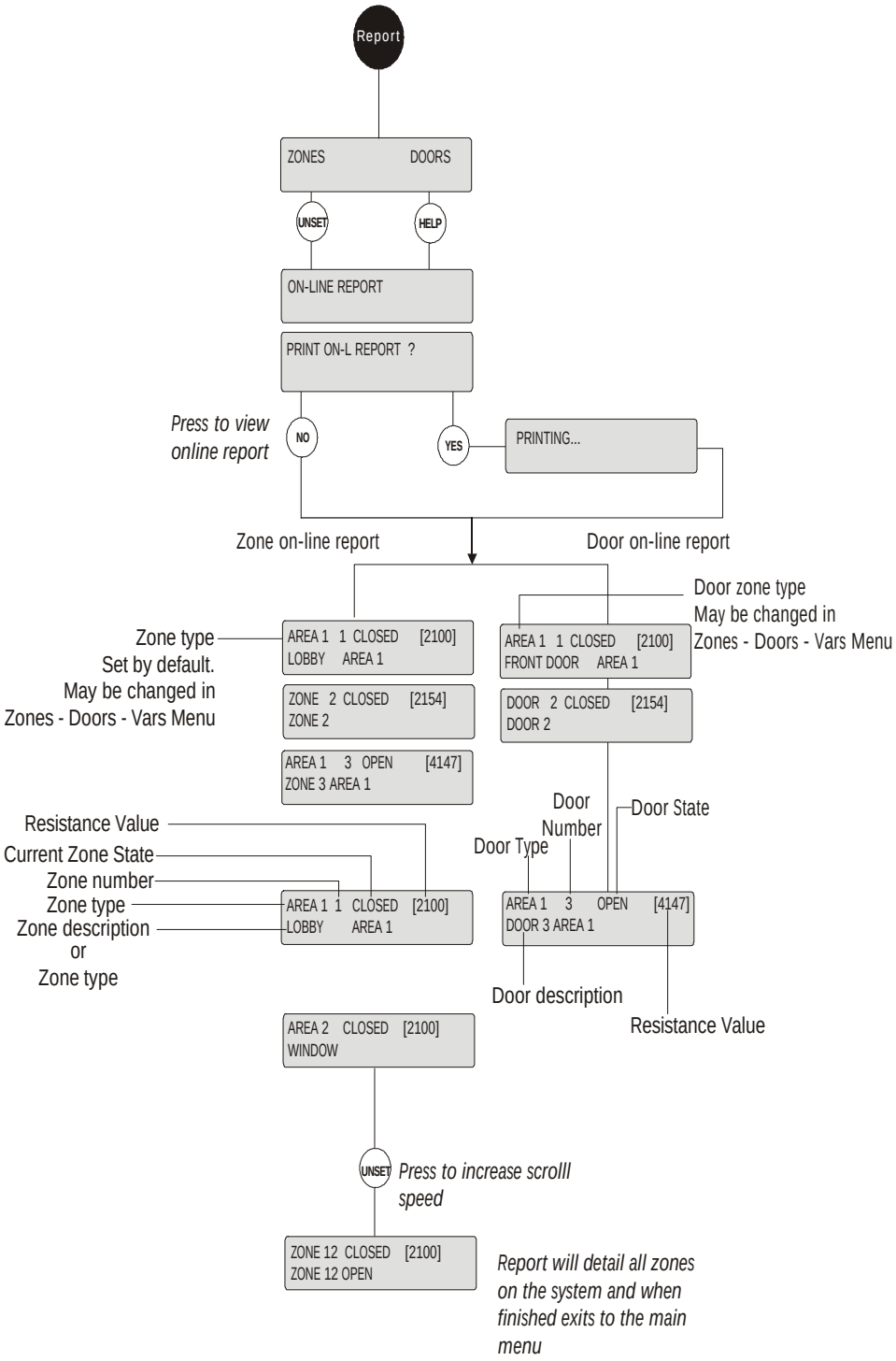
Before printing the report, ensure a serial printer is attached to one of the serial ports of the Controller. Use the Set Data Formats menu to configure the serial port for printer settings.

FINISHED is printed at the end of the report. To terminate the printout at any stage press the NO key (this displays an ABORTED message).

If you do not require a hard copy you can send the report to the display by pressing the NO key when the print alternative is displayed.

The report starts with the zone which has the lowest number on the system and increases numerically until all the on-line zones have been reported. The system displays zone type, number, state, analogue value (in brackets), node number and the input the zone has been assigned to. Each zone state displayed will be prefixed with a character if a zone is either manually inhibited, command string inhibited or disabled. **[*See table on page 8-29: Service Mode - Monitor*].**

Note *Use the # key if you need to skip quickly through the report.*



menu SERVICE MODE ➲ TEST

Function: This menu allows you to *walktest* the zones and doors on the system.

Additional Information

Testing a zone/door

The left hand side of the top line of the display shows the zone/door to be tested, while the result of the last zone tested is to the right. The node and input it is assigned to are displayed on the bottom line.

To help identify the location of the zone/door, press the Help key to display the zone description, if one exists. In door walktest, the door description will be displayed on the bottom line of the display, if one exists, otherwise the door number and zone type assigned are displayed.

The system will start by requesting the first on-line zone on the system to be tested and then work in ascending numerical order until the last zone on the system is tested.

The message TEST 1 will remain in the display until the system detects a change from zone 1. While waiting for this change, all other zone changes are displayed and noted by the system. This is so that, when their turn in the numerical sequence comes, it will be unnecessary to walktest those zones again (the system skips to the next zone which has not changed state since the start of the test).

When the panel is displaying TEST you can view the zone description for the zone in question by pressing the Help key.

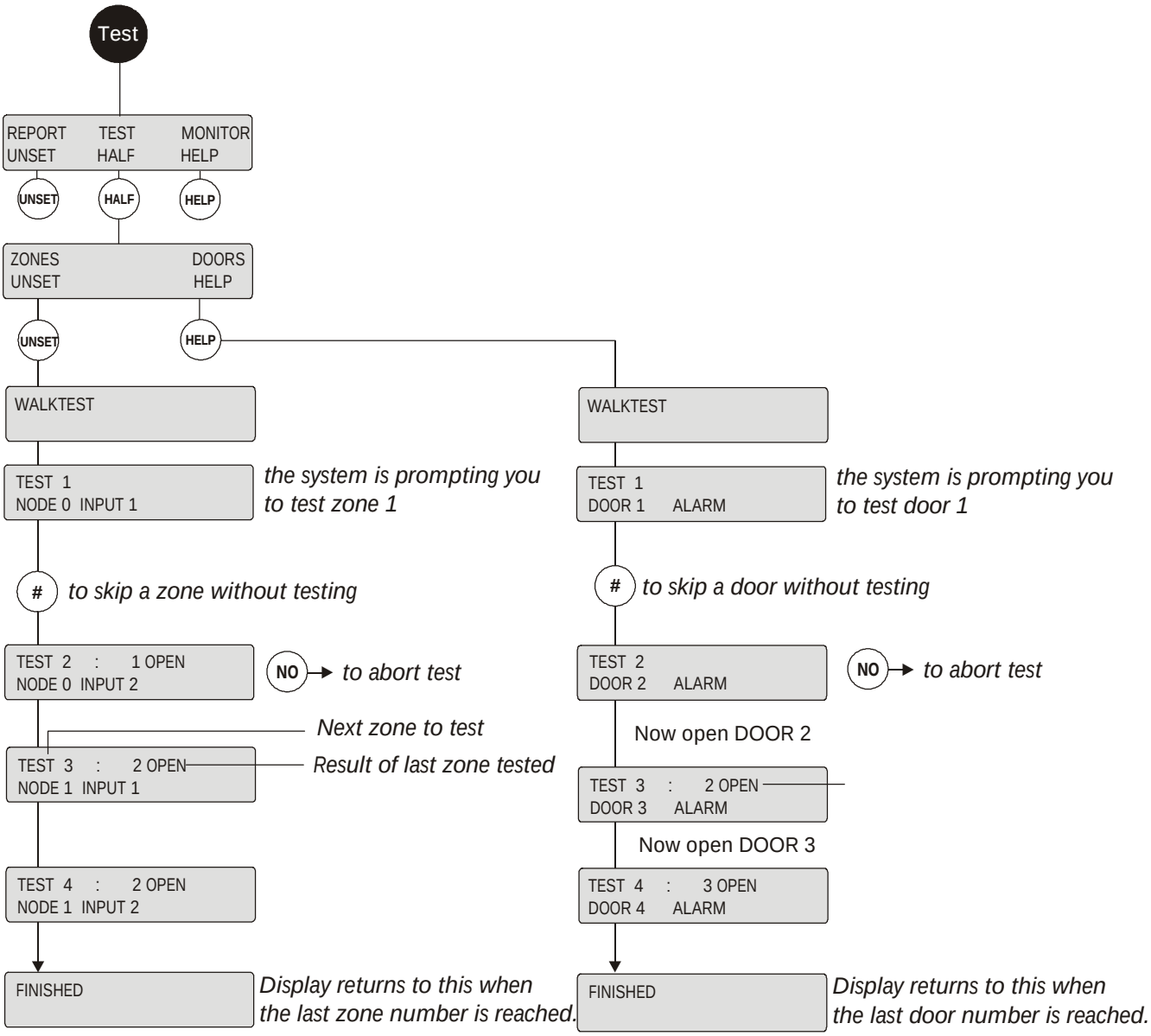
If a zone cannot be tested for any reason you can skip it by pressing the # key.

Printout

When Walktest is chosen a print-out is started which displays information about the walktest. Firstly the time and date of when the test started is printed along with any zone which is skipped. When the walktest is complete the number of zones correctly tested are printed along with the number which were not tested. The final line of the print-out gives the time and date at which the test was finished.

Note *If a zone is inhibited or disabled it will only be reported in the display when it is the zone currently being tested.*

Diagram


Test
REPORT TEST MONITOR
UNSET HALF HELP
UNSET
HALF
HELP
ZONES DOORS
UNSET HELP
UNSET
HELP
WALKTEST
TEST 1
NODE 0 INPUT 1
the system is prompting you to test zone 1
#
to skip a zone without testing
TEST 2 : 1 OPEN
NODE 0 INPUT 2
NO
to abort test
Next zone to test
TEST 3 : 2 OPEN
NODE 1 INPUT 1
Result of last zone tested
TEST 4 : 2 OPEN
NODE 1 INPUT 2
FINISHED
Display returns to this when the last zone number is reached.
WALKTEST
TEST 1
DOOR 1 ALARM
the system is prompting you to test door 1
#
to skip a door without testing
TEST 2
DOOR 2 ALARM
NO
to abort test
Now open DOOR 2
TEST 3 : 2 OPEN
DOOR 3 ALARM
Now open DOOR 3
TEST 4 : 3 OPEN
DOOR 4 ALARM
FINISHED
Display returns to this when the last door number is reached.

menu SERVICE MODE ➲ MONITOR

Function: The Monitor submenu allows you to look at any zone/door individually and will display its state and resistance value. The buzzer is also sounded if the zone/door is not closed with a different tone for each state.

On selecting this menu, enter the number of the zone/door to be tested and press #. The number you enter must be a valid number or an error message is displayed and you must try again.

You can increment (UNSET key) or decrement (PART key) the zone/door number without having to exit and re-enter this mode. The characters displayed determine the zone/door status.

Character(s) displayed	*Zone Status*
NIGHT 4 CLOSED [2100] NODE 0 INPUT 4	On-line : [value]
NIGHT 4 CLOSED *2100* NODE 0 INPUT 4	Not on-line : *value*
*NIGHT 4 CLOSED [2100] NODE 0 INPUT 4	Inhibited manually : leading *
/NIGHT 4 CLOSED [2100] NODE 0 INPUT 4	Inhibited by command string : leading /
+NIGHT 4 CLOSED [2100] NODE 0 INPUT 4	Inhibited manually and by command string : leading +
NIGHT 4 CLOSED /2100/ NODE 0 INPUT 4	Disabled : /value/

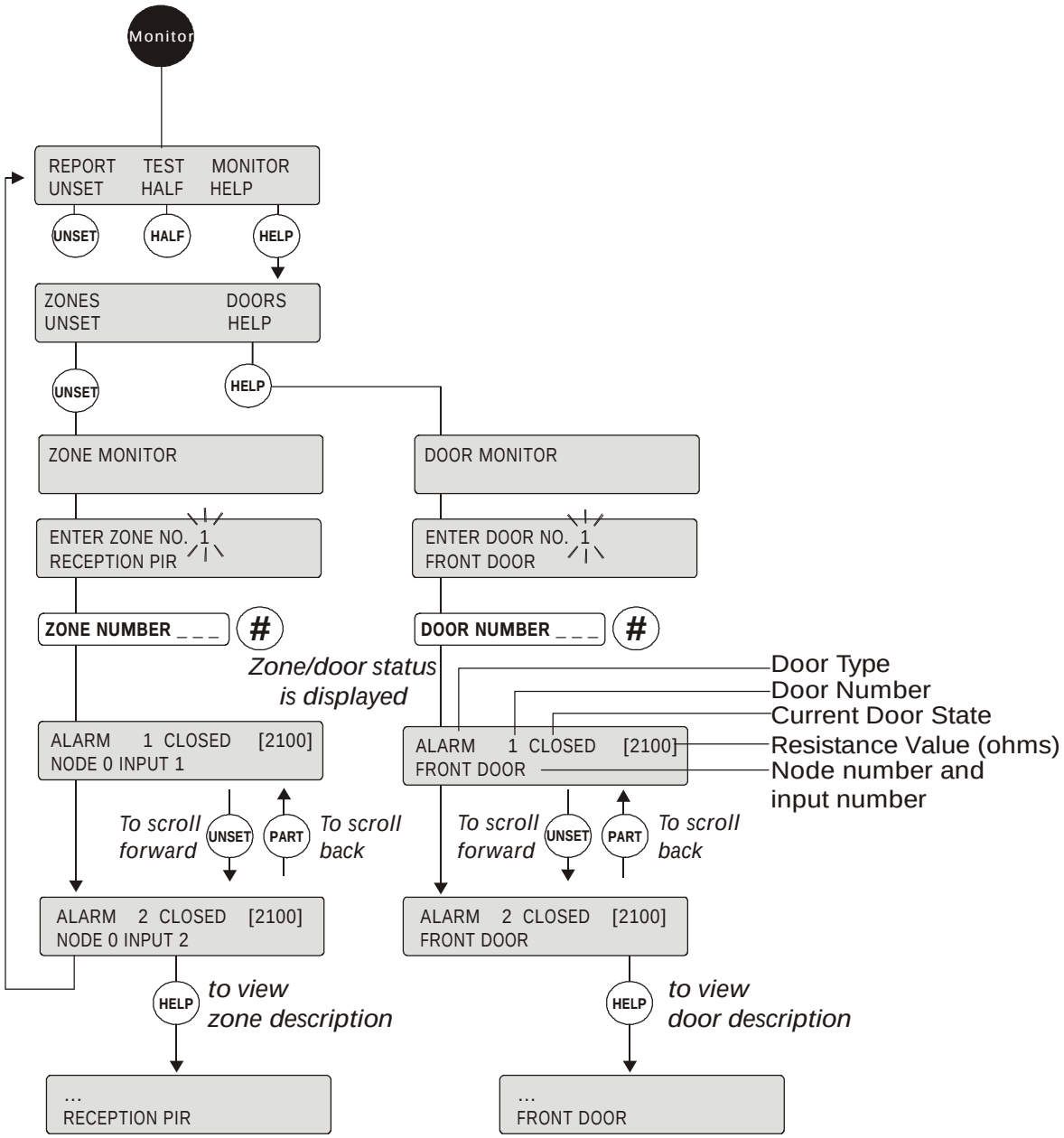
At this stage the UNSET key will cause the display to change, showing the response of the input above and the PART key will show the input below. The resistance value displayed will increase on systems with long cable runs or cable with high capacitance.

The buzzer is used in this mode to indicate the state of the input under test. The relationship between buzzer sound and the state of the input is as follows:

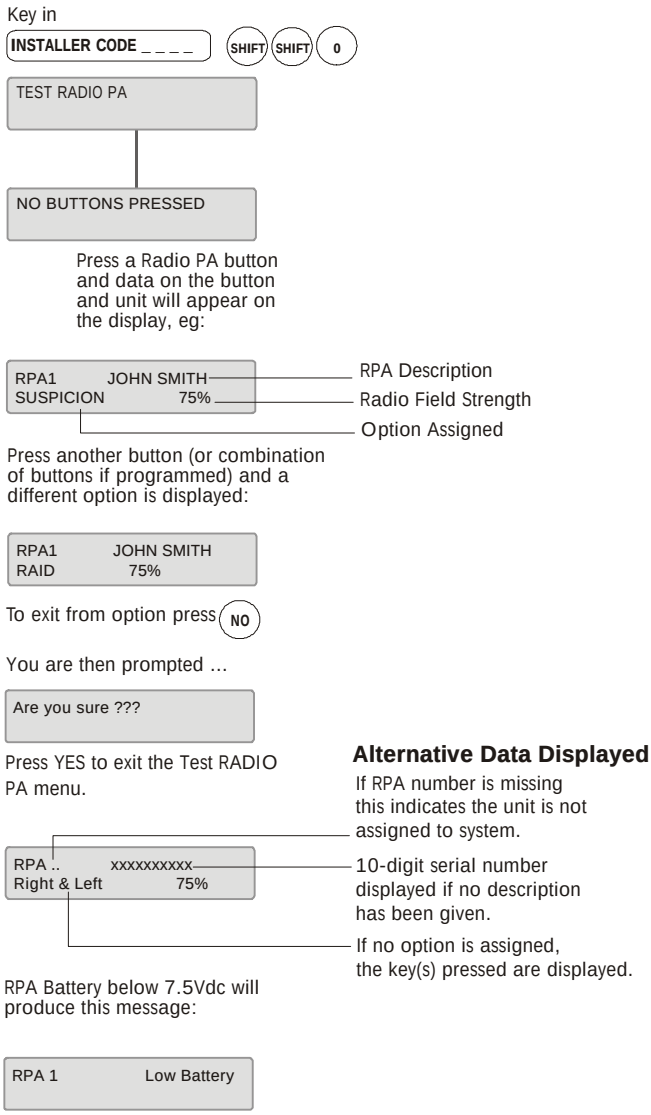
Input State	Buzzer Pattern
Closed	Off
Open	Long Beep
Short	Fast Beep
Disconnected	Continuously On

Note *The buzzer sounding can be distracting and therefore it is possible to silence it by pressing the HALF SET key. Default is buzzer sound 'on'.*

Diagram


Monitor
REPORT TEST MONITOR
UNSET HALF HELP
UNSET
HALF
HELP
ZONES DOORS
UNSET HELP
UNSET
HELP
ZONE MONITOR
DOOR MONITOR
ENTER ZONE NO. 1
RECEPTION PIR
ENTER DOOR NO. 1
FRONT DOOR
ZONE NUMBER _ _ _
#
DOOR NUMBER _ _ _
#
Zone/door status is displayed
Door Type
Door Number
Current Door State
Resistance Value (ohms)
Node number and input number
ALARM 1 CLOSED [2100]
NODE 0 INPUT 1
ALARM 1 CLOSED [2100]
FRONT DOOR
To scroll forward
UNSET
PART
To scroll back
To scroll forward
UNSET
PART
To scroll back
ALARM 2 CLOSED [2100]
NODE 0 INPUT 2
ALARM 2 CLOSED [2100]
FRONT DOOR
HELP
to view zone description
HELP
to view door description
...
RECEPTION PIR
...
FRONT DOOR

Function: This menu allows you to test radio panic attack buttons on the system, without causing alarms. Details of the unit under test are displayed



Additional Information

Location of node

[*See page 5-29: HUA Node*].

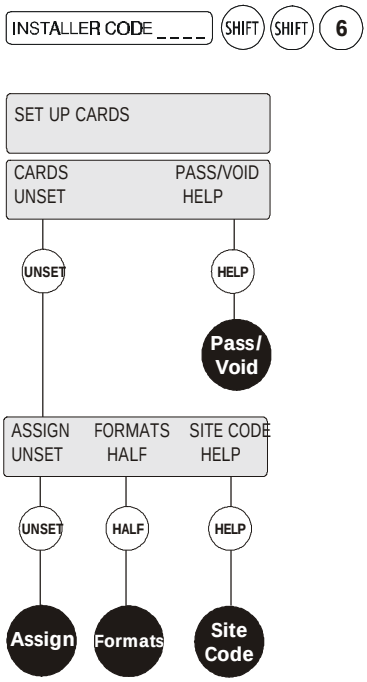
Radio Field Strength

Some units do not support this feature. The “Radio Field Strength” percentage will help the installer to determine the optimum location for placement of a HUA Node. The installer can test a node’s ability to receive a signal by activating an RPA button at different locations throughout the premises. A low reading of signal strength may require the node to be relocated. If relocation does not provide the required coverage an additional node may be added to the system, placed in a suitable location and re-tested.

Battery Low

If the RPA battery level is below 7.5Vdc the RPA will not operate correctly and the system will display an “RPA Battery Low” message (in which case batteries must be replaced). If the battery low condition is ignored, the transmitter will eventually fail to transmit (the transmit indicator will not illiminate when buttons are pressed).

Function: This menu allows you to setup cards on the access system and pass them for various levels of access.



Additional Information

Europlex's Access Control Management software, 3GS+, is available to setup and manage the Access Control system database.

Note *For more information on this menu s****ee Programming Overview chapter 7 page 7-3: Access System Overview.***

ASSIGN: [See Page 8-33]

This menu is used to assign cards onto the 3GS system. All cards must be assigned before they can be programmed for use on the system. Cards can be assigned by presenting them at a reader and learning the card, by selecting from a range 1-10,000 or by programming via 3GS+.

FORMATS: [See Page 8-34]

This menu allows for the use of non-standard card formats.

SITE CODE: [See Page 8-35]

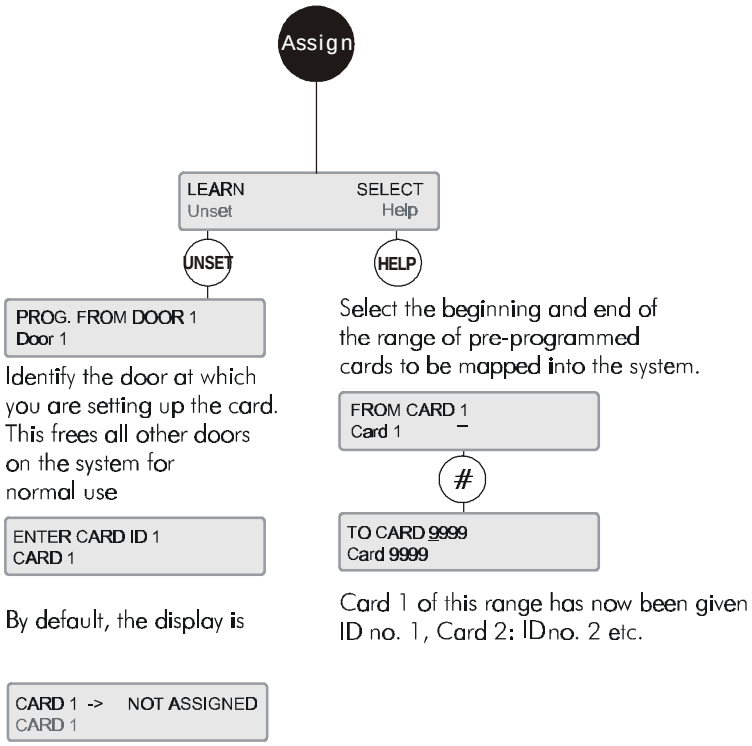
This menu is used to program the system site code.

PASS/VOID: [See Page 8-36]

This menu allows you to pass or void cards on the system. Cards can be passed for groups of doors for time zones. Cards can be given PIN codes, an expiry date or a function level in this menu.

menu SETUP CARDS➲ CARDS➲ ASSIGN

Function: This menu is used to insert cards onto the 3GS system.



Additional Information

This menu allows you to assign IDs to cards in 2 ways:

- **Learn** The card to be passed is of unknown origin and the pre-encoded number is not known. In this case the card is presented at a card reader and then given a card ID. When you re-assign the ID to your present card, the existing ID, description and door group/time zone information is over-written, and must be re-set.

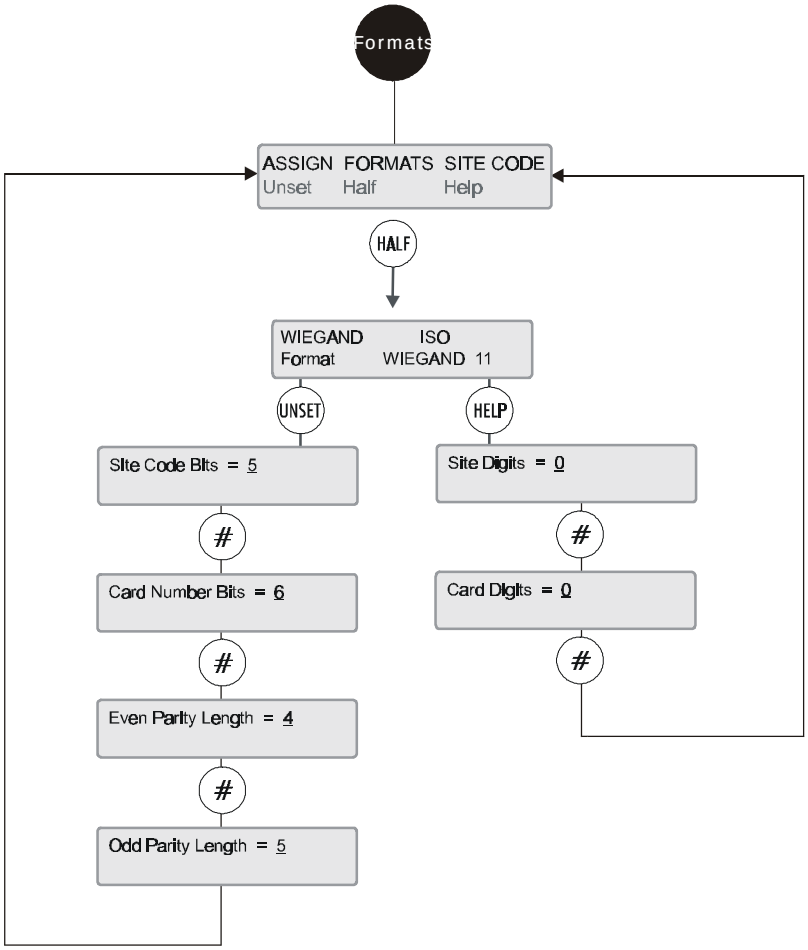
  You will be prompted if the ID has already been assigned, in which case you can over-write the existing card, or choose the next available ID.

- **Select** Batches of cards with pre-coded numbers of between 1 and 9999 can be passed directly into the system and given corresponding card IDs. The first card of the batch becomes Card ID 1, the second becomes Card ID 2, etc.

  In effect, this gives you 1-to-1 mapping, automatically assigning IDs to cards.

menu SETUP CARDS➲ CARDS➲ FORMATS

Function: This menu is designed to allow you to enter details of Wiegand or ISO cards that are not of the standard format.



Additional Information

Access node version 1.08 and later supports the following structured card formats: Wiegand 26/30/37, ISO 4-4, and Macrosoft but is designed to recognise other formats using the formats menu. It is possible to use this menu to set-up the system to recognise other Wiegand or ISO formats by programming the required parameters.

Wiegand

Site Code Bits Enter the number of bits for the card site code.

Card Number Bits Enter the number of bits for the card number.

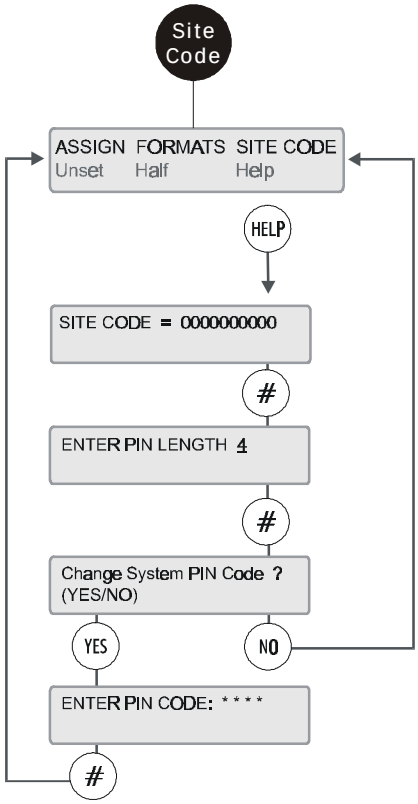
Even/Odd Parity Length Enter values here for the parity length in bits.

ISO

ISO cards will require values for Site Code and Card digits.

menu SETUP CARDS➲ CARDS➲ SITE CODE

Function: This menu allows you to setup the Site codes for cards, to specify the pin code length and to enter the system pin code for PINpad only operation.



Additional Information

Site Code

Can be of any length up to 10 digits

PIN Length

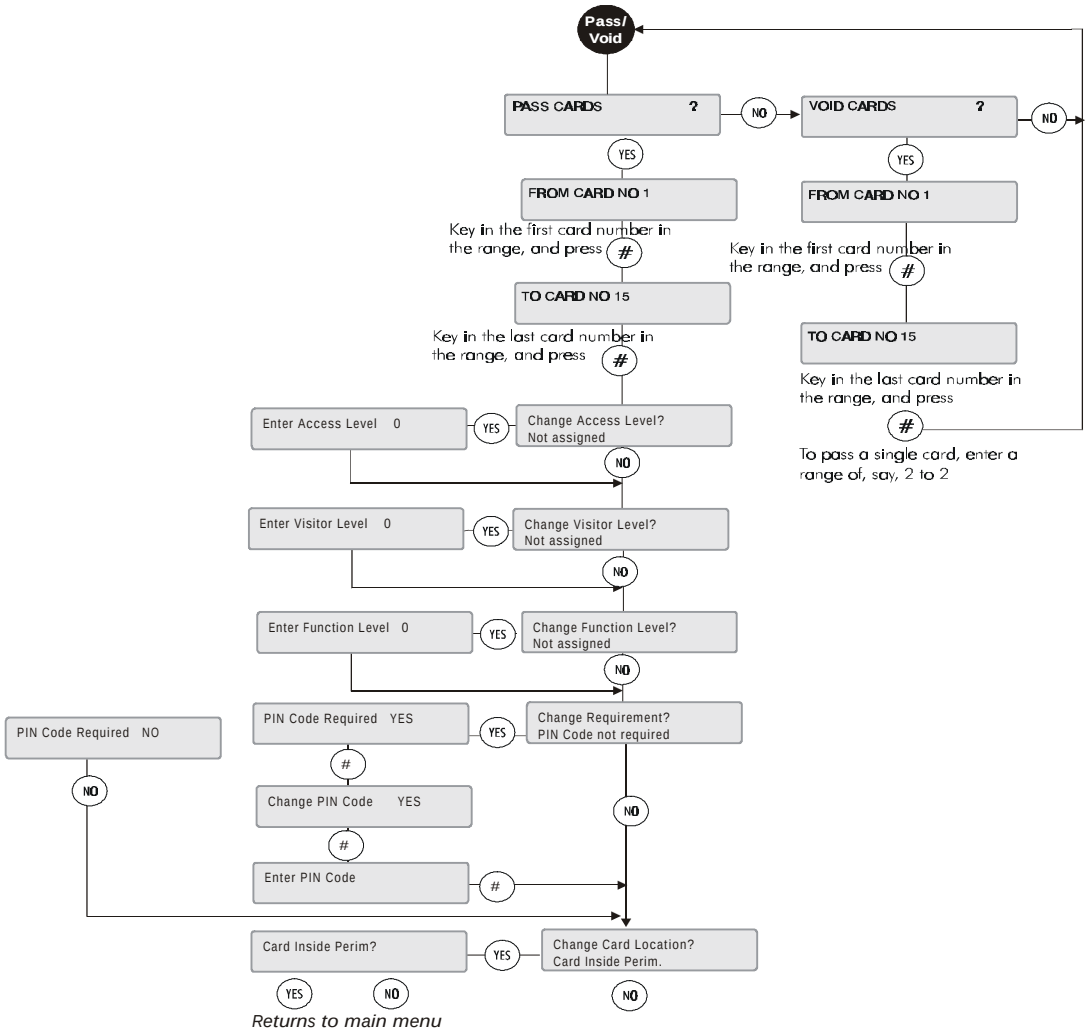
Defaults to 4 digits, can be up to 8 digits.

PIN Code

Enter the system PIN code for PINpad only operation

menu SETUP CARDS➲ PASS/VOID

Function: This menu allows you to pass cards on the Access Control system once a card ID has been assigned.



Additional Information

Card Range

Enter the range of cards to be passed, from 1 to 9999. To pass a single card, enter the card number and press the # key twice. Once the card(s) has been passed, the display will prompt for the access level for this/these cards.

Change Access Level?

An access level is a combination of one or more group times. Group times consist of Time Zones applied to door groups so that once applied to a card, it will limit the card user to having access to certain doors at certain times only. Up to 250 access levels are programmed by the installer, who will indicate which levels should be assigned to which cards. When you have assigned an access level, you are prompted for the visitor level.

Change Visitor Level?

The visitor level is used to program temporary cards, which will only be valid for a certain period of time (between a given start date and time and end date and time). The system allows for up to 250 different Visitor levels, which are programmed by the installer. Once assigned, you are then prompted for a function level.

Change Function Level?

Function levels give the user the ability to set/arm and unset/disarm an area by presenting a card to a reader outside the area entrance door. A function level will give a card 3 extra capabilities: to unset/disarm an area from the outside, to unset/disarm an area from inside, and to set/arm an area once you have left (by swiping your card at a reader near the exit door). Up to 250 function levels are programmed by the installer. When you have assigned a function level, you are prompted to change the PIN code requirement for the card.

Change Requirement?

This option allows you to decide if a card should also require a PIN code before it will be granted access through a door. It also allows you to change the existing PIN code for the card or create a new one.

Note *The user should be aware that the PIN code created using this option will apply to all the cards being passed at this stage*

Once a PIN code requirement has been assigned, you will be prompted to identify the card location.

Change Card Location?

Before the card is passed, it must be located in the system. This menu will identify the card as being inside or outside the alarm area when passed.

When all the system cards can be located at any time, they can be tracked and controlled effectively. Setting the card location enables the card for **Roll Call** and **Anti-Passback** functions (both configured using 3GS+), which allow the installer to identify which cards are in use in the system at any given time, and to control the use of cards within the system. Once the location has been assigned, press the (#) key to return to the main menu.

Voiding Cards

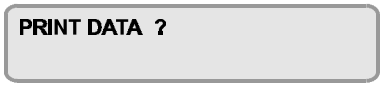
The **Void Cards** option removes a set of cards from the system.

Voiding a card removes all the card's settings, from card ID to access/function/visitor levels.

Exiting the Setup Cards menu

Press NO to exit.

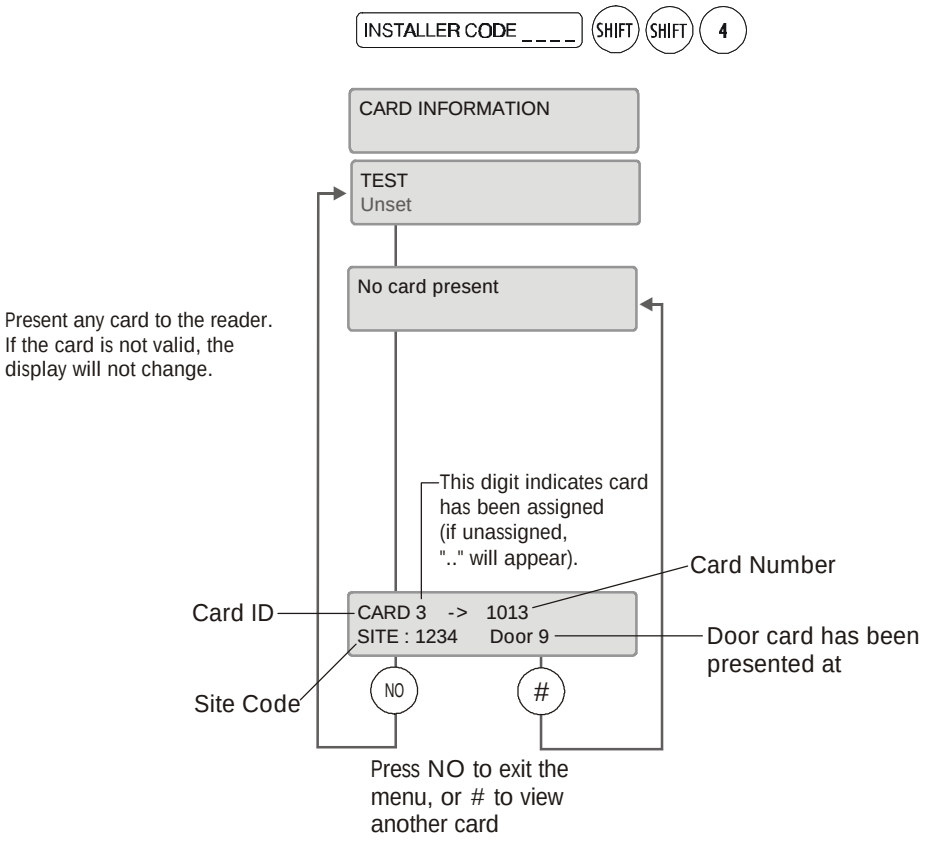
The display will show:



If you have a printer connected to the Controller serial port, you can now print out the card settings you have just configured.

Press YES to print and NO to exit.

Function: This menu allows you to test cards on the system.



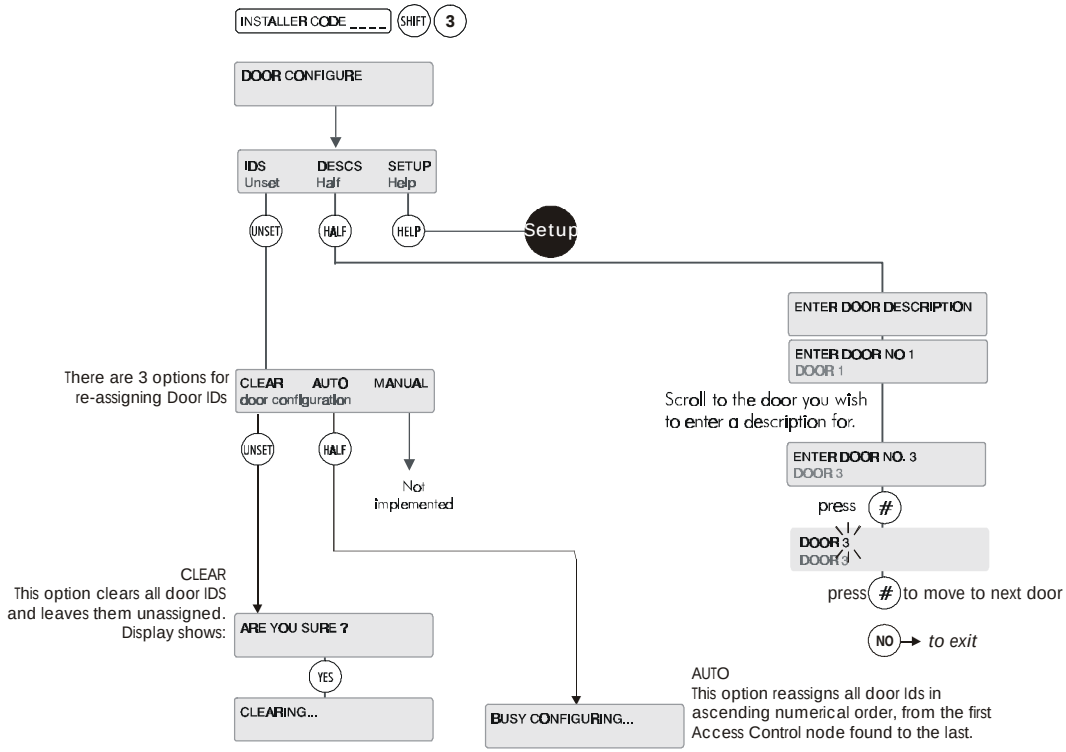
Additional Information

Testing Cards

The Test menu checks that the card presented to the reader is valid for the system. A card will be valid if it is the right card type for the reader (proximity, swipe), if it has the correct site code encoded, and if it has been passed on the system. **[*See page 8-32: Setup Cards*].**

The default is **No card present.** If the card is not a valid format, the display will not change and you can press **NO** to exit the test. When you present a valid card to a reader, the display will show the card ID, number, site code and door at which the card is presented.

Function: The **Door Configure** menu allows you to set an ID, description and open/locked properties for the doors on your system.



Additional Information

Each door is automatically given a unique ID, which will identify the door within the system. Time zones are configured in a separate system menu. **[*See page 8-44: Time Zone Setup*]**. So when configuring a door, you can only assign pre-set time zones. Similarly, door groups (sets of pre-configured doors) are set up within the **door group** system menu.

Note *Doors can be assigned as 'zone' types the same way as normal zones. As such when the door changes state it will act in the same way as a zone (with the same 'type' assigned), e.g. if the Exit attribute is set to YES for a door, it will start the entry time when opened if the system or area is set/armed.*

IDs

The system automatically assigns an ID to every new door with an EOL resistor connected to the door input, attaching it to the next available reader on the node. The door will then be identified by its number, the ID of the reader/lock to which it is attached, and the ID of the node on which the reader is to be found. For example, Door 1, Node 2, Reader 2.

Clear will clear all existing Door IDs from the system, leaving every ID unassigned.

Note *If you Clear existing door IDs, you must follow this by selecting Auto - or the system doors will not function.*

Auto scans the system and re-assigns every valid door in numerical order. If a Door ID is cleared from the system, the next door will be re-assigned to the ID left unassigned.

Manual option not implemented

Door Description

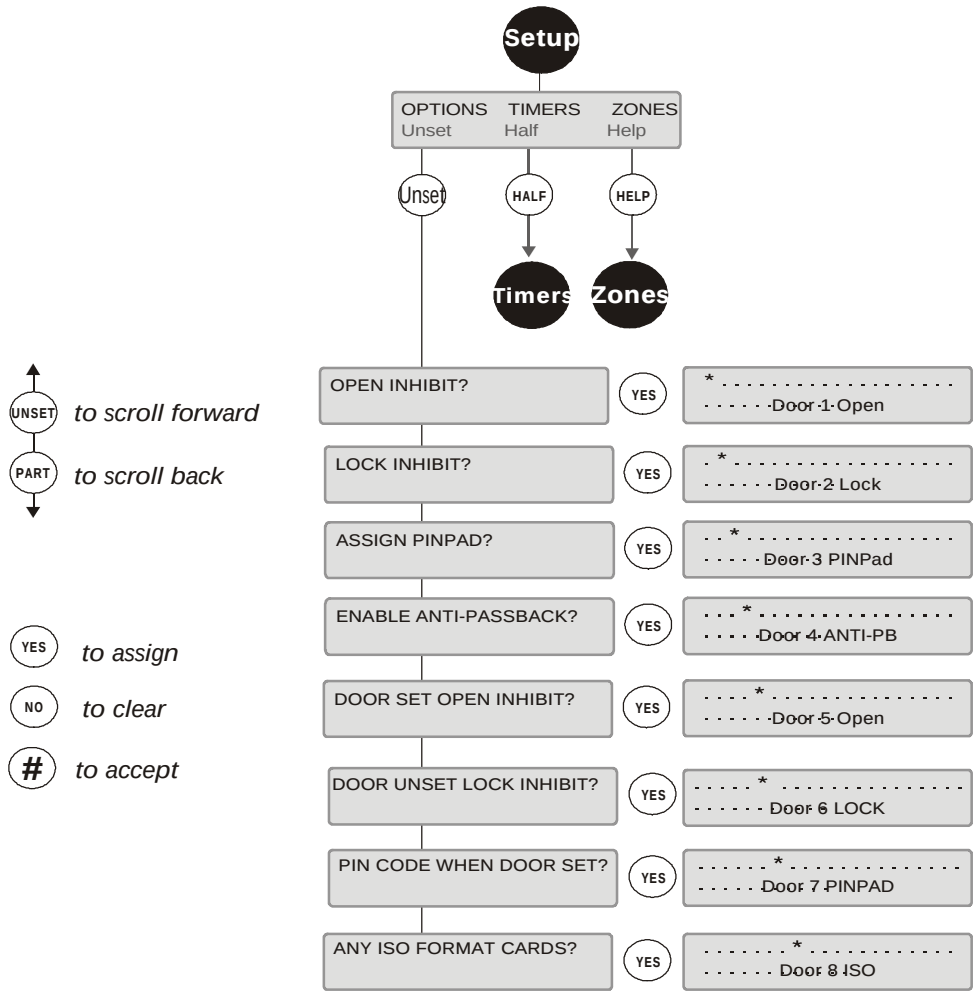
Enter door description required. **[*See page 8-2: Typing Text*].**

SETUP: [See Page 8-40]

This menu allows you to setup all door options, timers and time zones.

menu DOOR CONFIGURE➲ SETUP

Function: This menu allows you to setup the door options.



Additional Information

TIMERS: [See Page 8-42]

This menu allows you to setup door related times, such as Door Open Time and Lock Time.

ZONES: [See Page 8-43]

This menu allows you to assign time zones to doors.

All 64 doors are represented by dots. YES selects the option *, which appears on the display, on a door. Selecting NO, the default, will then remove the option from the door. UNSET scrolls to the next door, PART scrolls back to the previous door. The * button will toggle between selecting the option for **ALL** doors and removing the option from **ALL** doors.

Open Inhibit?

When this option is selected it prevents the doors being opened by time zone or by manual door control (RKD or PC menu).

Lock Inhibit?

When this option is selected it prevents doors being locked by time zone or by manual door control (RKD or PC menu).

Assign Pinpad?

The Pinpad menu allows you to assign PINpads to one, some or all of the 64 doors available in the system. This option is coordinated with the PIN code option selected when setting up cards. PINpad identifies those doors that may require a PIN code for access and will therefore need a PINpad installed near the card reader. The display shows the doors (32 at a time) represented as dots, followed by the Door ID and PINpad. PINPads will normally be positioned on the entry side of a door.

YES assigns a PINpad to the reader on Door 1 (default is **NO**), and the selection is shown by a *****. **UNSET** scrolls forward to Door 2, **PART** scrolls back. Any PINpad assignment to a door can be removed by scrolling to the relevant Door and selecting **NO**. The ***** button toggles between PINpads assigned to all doors, and no PINpads assigned to any doors.

Anti-Passback?

Anti-Passback is a feature that will help to prevent a number of different people using the same card.

When a card is used to gain entry to a door that has been set to Anti-Passback, the same card must be used to exit. So every entry through the door using this card must be followed by an exit using the same card. If a ring of doors around an area have all been set to Anti-Passback, the user can enter through one door, and exit through any of the other doors in the ring. In effect, this creates an anti-passback perimeter. Whoever enters the perimeter will need the same card to exit. This helps to restrict the use of a card to one user, and creates an effective card tracking system **[*see page 8-31: Setup Cards*]**.

The **ANTI-PB** menu is used in the same way as **PINpad** and **Inhibit.** 32 doors at a time are represented by dots. **YES** sets Anti-Passback on a door (the default is **NO**) and the setting is shown by an *****. **UNSET** scrolls forward to Door 2, **PART** scrolls back. The ***** button toggles between assigning the option to all 64 doors or assigning it to none.

Door Set Open Inhibit?

When the area for this door is set then it is prevented from going into free access.

A typical application for this would be a door that is normally on free access from 9am to 5pm. If the system is still set/armed at 9am then the door will not go into free access.

Door Unset Lock Inhibit?

When the area for this door is unset/disarmed then it is prevented from being locked.

PIN Code when Door Set?

If the door has this option then a PIN code is required when a card is presented and the area for this door is set.

Any ISO Format Cards?

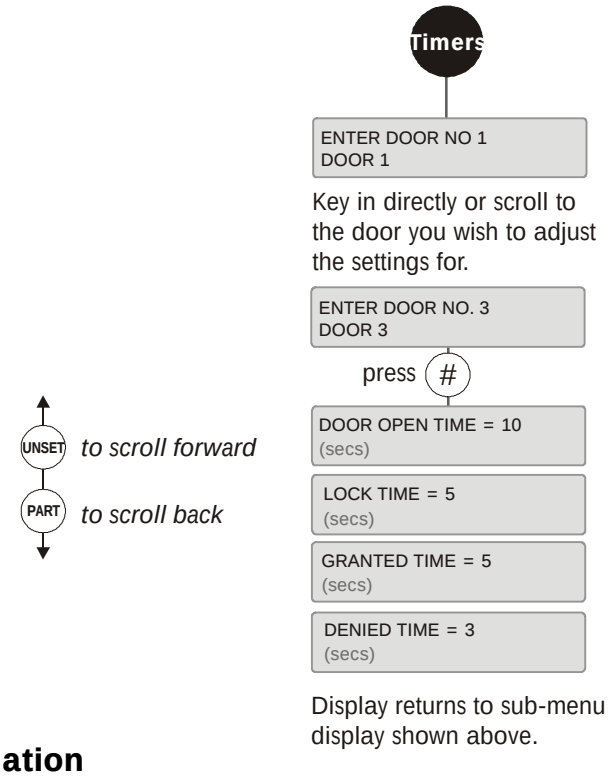
If the door has this option then any card conforming to the ISO format will be allowed through the door.

This is mainly used for bank lobbies and is only available on Access Control Node software rev. 1.06 or later. These cards do not need to be assigned or passed on the system, so the number of bankcards allowed access is unlimited. Access granted to bankcards is logged in the panel access log.

Note *All door options can be set up at the keypad, but it is recommended that all access control features/settings are implemented using 3GS+ PC software..*

menu DOOR CONFIGURE ➲ TIMERS

Function: This menu allows you to change the timers for individual doors. This allows for doors to be configured with different times.



Additional Information

Door Open Time

This is the number of seconds the door is allowed to remain open after you have been granted access. This feature prevents a door from being accidentally left open or intentionally propped open.

The default is 10 seconds and the range is 0 to 255 seconds. To accept the default, simply press #. To enter a new time, key in the new time. Then type # to accept.

Lock Time

The number of seconds a door lock is released for. This is the length of time the user will have to physically open the door once he/she has been granted access.

The default is 5 seconds (range 0 - 255). A zero-second value is possible, (called 'turnstile operation') which will unlock the door for a fraction of a second. Press # to accept the default. To enter a new time, over-type the flashing number with the new setting and press # to accept.

Granted Time

The number of seconds the Green LED (access granted) will light for. The default is 5 seconds.

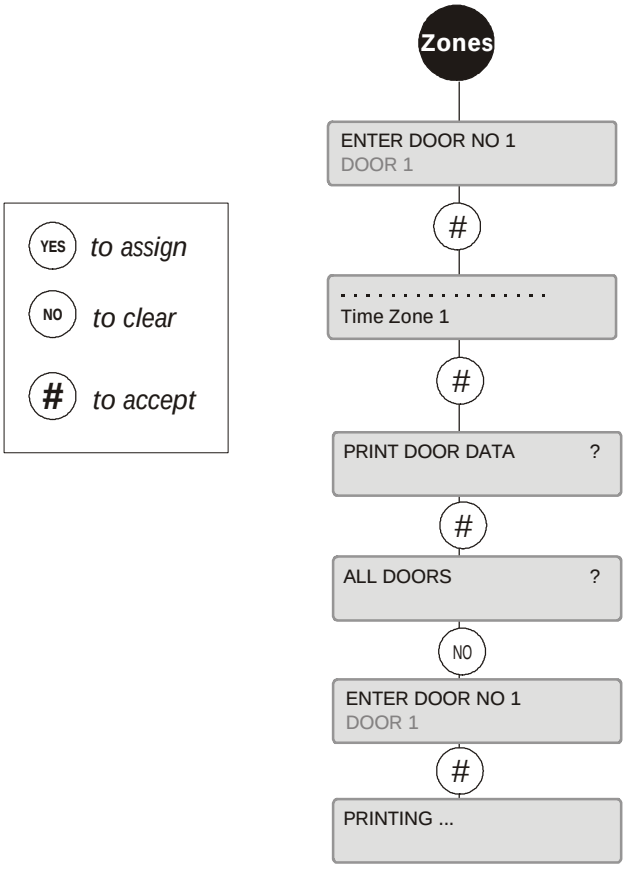
Denied Time

The number of seconds the Red LED (access denied) will light for.

The default is 3 seconds. Once you have accepted your settings for this door, the menu will prompt you for another Door Number. Enter the number of your choice, or use the **UNSET** or **PART** keys to scroll forwards or backwards to a particular Door. To exit the **TIMERS** menu at any stage, press **NO**.

menu DOOR CONFIGURE ➲ ZONES

Function: This menu allows you to assign any of the first sixteen preset time zones to individual doors.

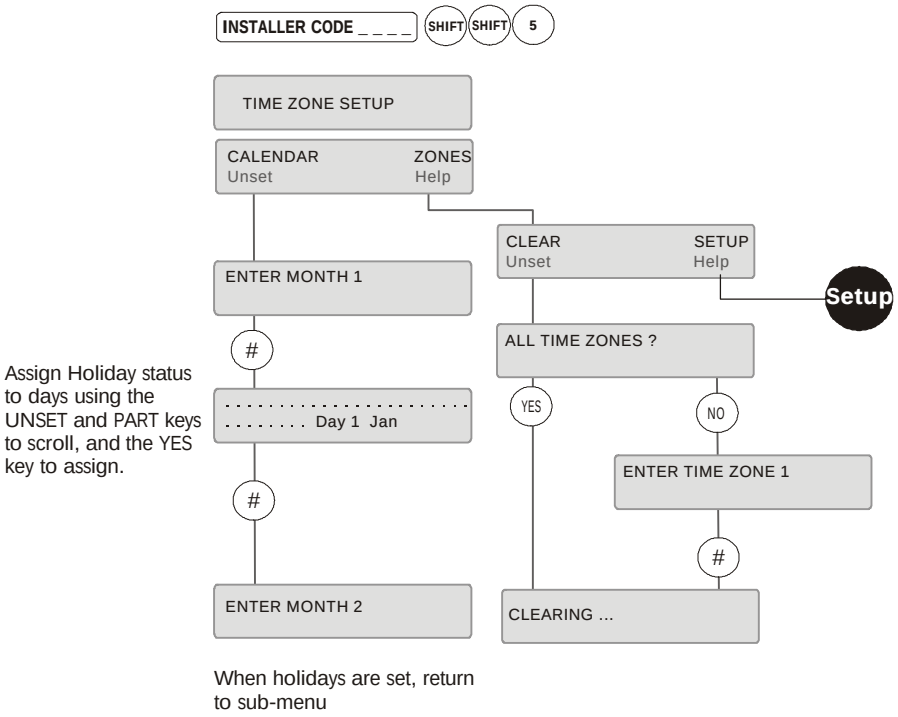


Additional Information

When you have selected the Door Number, the display will show the 16 available time zones as dots. To assign a time zone to a door, use the **UNSET** and **PART** keys to move to the zone of your choice. Selecting **YES** assigns that zone to your Door. **NO** will clear a time zone previously set. **#** accepts your settings. The ***** button toggles between assigning all time zones to this door or assigning no time zones.

Before leaving the system menu, you will be prompted to print the door data you have just configured. This printout will detail the settings for all or individual doors in the system.

Function: This menu allows you to setup and clear time zones and configure holidays for use on the Access Control system.



Additional Information

Calendar

This option allows you to select the days required as holidays for the Access Control system and is linked to the time zone setup menu overleaf. Enter the number of the month (Jan=1, Feb=2, etc.). Days are represented on the display as dots, with 31 days allowed for all months. A day is assigned Holiday status by pressing **YES**, (default is **NO**). **UNSET/ PART** scrolls forward/back. The * button toggles between assigning Holiday status to all days or assigning it to none. **#** accepts the settings made for the month and returns to the enter month number prompt. **NO** then quits the menu.

Clear

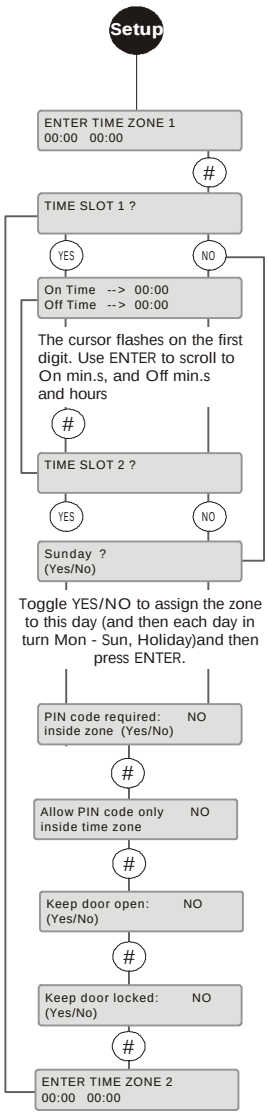
This option allows you to clear all or individual time zones form the system.The first option is to clear **ALL TIME ZONES?** Pressing **YES** clears all time zones.To clear individual time zones, press **NO**.

SETUP: [See Page 8-45]

This menu allows you to setup the time zones on the 3GS access system by specifying the on/off times, the days of the week and the conditions to be applied during the time zone.

menu TIME ZONES ➲ SETUP

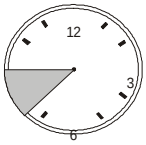
Function: This option allows you to setup the time zones on the Access Control system.



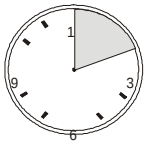
Additional Information

Time Zone Setup

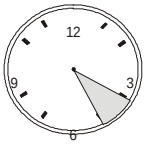
Access to a secure area is controlled by means of time zones. A time zone is that period of time when the door to the area is unlocked, and access is granted. Each time zone is made up of 4 separate ‘on-off’ slots, which means that the zone can be customised to grant access for busy periods only, and deny access for the rest of the time.

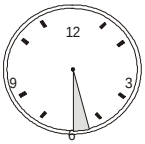


07:30 to0 9:00 am



12:00 to 14:30pm





Time zones and time slots

The time zone is broken down into four 'on/off' programmable time slots. For example, access to an area on a typical Monday might be busiest from 7:30 - 9am, 12 to 2:30pm, 4 to 5pm and 5:30 to 6pm. Access to the area is granted during these slots, and denied for the rest of the 24-hour period. Alternatively, you may have only 2 busy periods during the 24-hour day and will need to program slots 1 and 2 only, leaving slots 3 and 4 blank.

Time zones and days

Time zones can be assigned to any day of the week, or to a holiday. The above 4-slot configuration might be suitable for Monday, Tuesday, Wednesday, and Thursday of the week, whereas Friday, Saturday/Sunday and holidays might need a different configuration. In this way, a time zone is customised to allow for the particular requirements of a day and then assigned.

Time zones and cards

If no time zone is assigned to a card, the card will have 24-hour access to the door. If a time zone is attached, then the card must be presented to the door when that time zone is active. Further control is provided by assigning a PIN code to the time zone, which must be co-coordinated with the setup of the card.

If a PIN code requirement had been assigned to a zone, cards with PIN code assignments will be prompted for the PIN code when this zone is active. Cards without PIN code assignments will be allowed access immediately - **provided** they have been passed for that time zone. The digits of the PIN code itself are configured during card setup.

Time zones and doors

The first 16 time zones can be assigned to doors during door configuration. The properties of the time zone will control the door when that time zone is active. Any door assigned the active time zone will remain open/locked for that time period.

Setting up new time zones

Enter the number of the time zone you wish to configure. By default, the display shows the time zone number and the time settings of the first two time slots.

Enter times for Time Slot 1. The # key moves the cursor from On-time hours and minutes to Off-time hours and minutes. Press # again to accept your settings.

Assigning zones to days

The menu scrolls through the days Sunday to Holiday. Press **YES** or **NO** to toggle the zone to each day in turn and # to accept. Note that it is possible to assign more than one zone to a particular day.

Note *If the time zone is setup for a holiday and if the current day is a holiday then the time zone is active.*

PIN Code required

If a higher level of security is required at a door at certain times, the PIN code access option allows you to attach a PIN code to a time zone. If this is set to YES, then any cards with PIN codes attached **[*See page 8-32*: *Setup Cards*]** will be required to enter a PIN code when this time zone is active.

Note: The door must also be configured for PINpad.

Allow PIN code only

This option is only available on Access Control Node software rev. 1.06 or later. This allows the cardholder to gain access using just the card's PIN code, without the need to use the card. If two cardholders' PIN codes match, however, the system will use the first cardholders information to log the data. Ideally each cardholder should have a unique PIN code. This feature is only enabled when the cardholder has a time zone with the PIN ONLY attribute set. When the time zone is active the cardholder can simply enter his code to gain access. When the time zone has elapsed, card and PIN are required.

The Duress code is now activated by keying in the code followed by the hash key (#) on the PINpad.

Door Open

When attached to a time zone, the Door Open option will keep a door unlocked while the time zone is active. By assigning this zone to a number of doors, you ensure that these doors will remain unlocked while the zone is active. Choose **YES** to enable this option. # accepts your settings. Note that the time zone must also be assigned to the door in page **8-43** ***Door Configure - Zones***.

The menu returns you to the **ENTER TIME ZONE** prompt. Choose **NO** to quit.

Door Locked

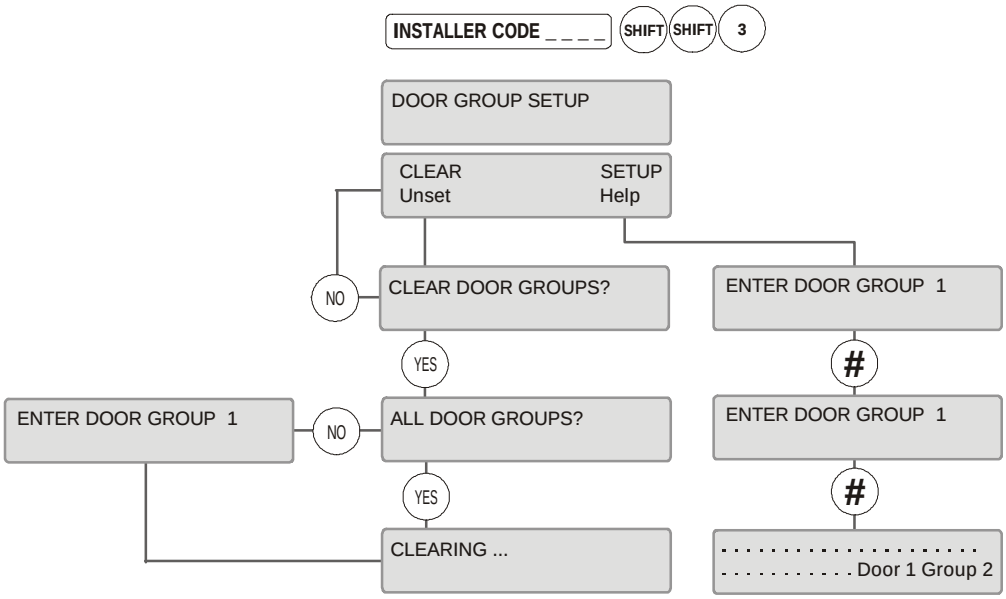
When attached to a time zone, the Door Locked option will keep a door locked while the time zone is active. By assigning this zone to a number of doors, you ensure that these doors will remain locked while the zone is active. Choose **YES** to enable this option. # accepts your settings. Note that the time zone must also be assigned to the door in **page 8-43** ***Door Configure - Zones***.

The menu returns you to the **ENTER TIME ZONE** prompt. Choose **NO** to quit.

Printing your time zone data

Before quitting the *Time Zone Setup menu*, you will be asked if you want to **PRINT TIME ZONE DATA?** You have the option to print out the settings for all time zones or an individual zone.

Function: This menu allows you to group doors together for use on the Access Control system.



UNSET to scroll forward, **PART** back.

YES to assign a door to a group, **NO** to remove the current assignment.

***** to toggle between all doors assigned or none

ENTER to proceed to the next door group

Additional Information

Clear

This option allows you to clear the doors from all or individual door groups

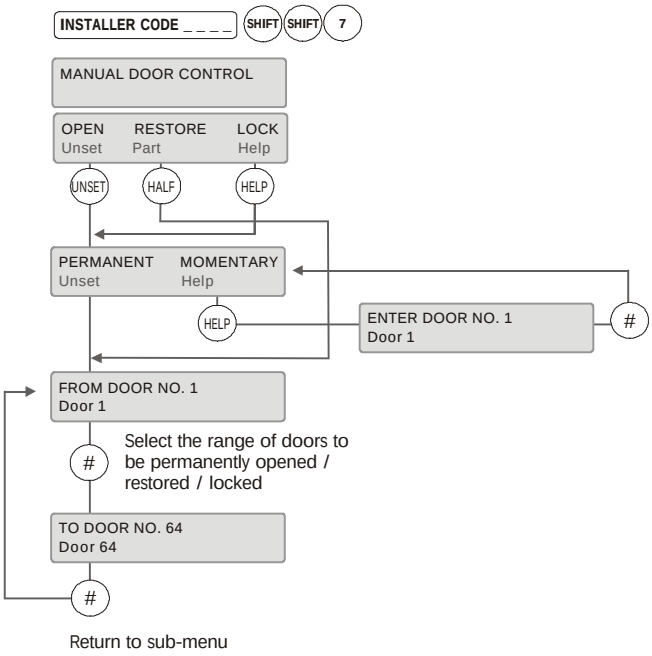
Setup

This option allows you to link doors together in a group for use with cards through access levels. If you have already configured, say, door group 7 and want to re-configure it, simply type '7' to go into the settings for that group. Otherwise, you can set up each group in turn by completing the menu options for each group and continuing on to the next.

Having given the number of the group you wish to set up, the display represents each of the 64 doors in the system (32 displayed at a time) as a dot, followed by the number of the door and group. As with Door Configuration options, a door is added to the group by pressing **YES**, (default is **NO**), **UNSET** moves forward to the next door, and **PART** moves back. The ***** button toggles between assigning all doors to the group or assigning none. **#** accepts the settings made for the group and returns to the **ENTER DOOR GROUP** number prompt. **NO** then quits the menu.

Before exiting, the system asks you if you want to **PRINT ALL DOOR DATA?** You then have the option of printing the details (i.e. group number and ID of doors contained in the group) of all or individual groups. **YES** prints the data, **NO** quits the menu

Function: This menu allows you to permanently open or lock a door or range of doors and to momentary open a door.



Additional Information

This option provides a manual over-ride on all door, time zone and card settings. At any stage, you can access this menu to open/lock a door or series of doors. Once you have selected your doors, the system will check for Lock/Open Inhibits operating on these doors **[*see page 8-39: Door Configure*]**. If none have been set, the doors can be opened/locked.

The **Open** menu allows you to open a range of doors permanently - i.e. the door will remain open until you manually restore the original door settings, or momentarily - you can open one door for the number of seconds for which the door lock would normally remain open once access has been granted **[*see page 8-39: Door Configure*]**.

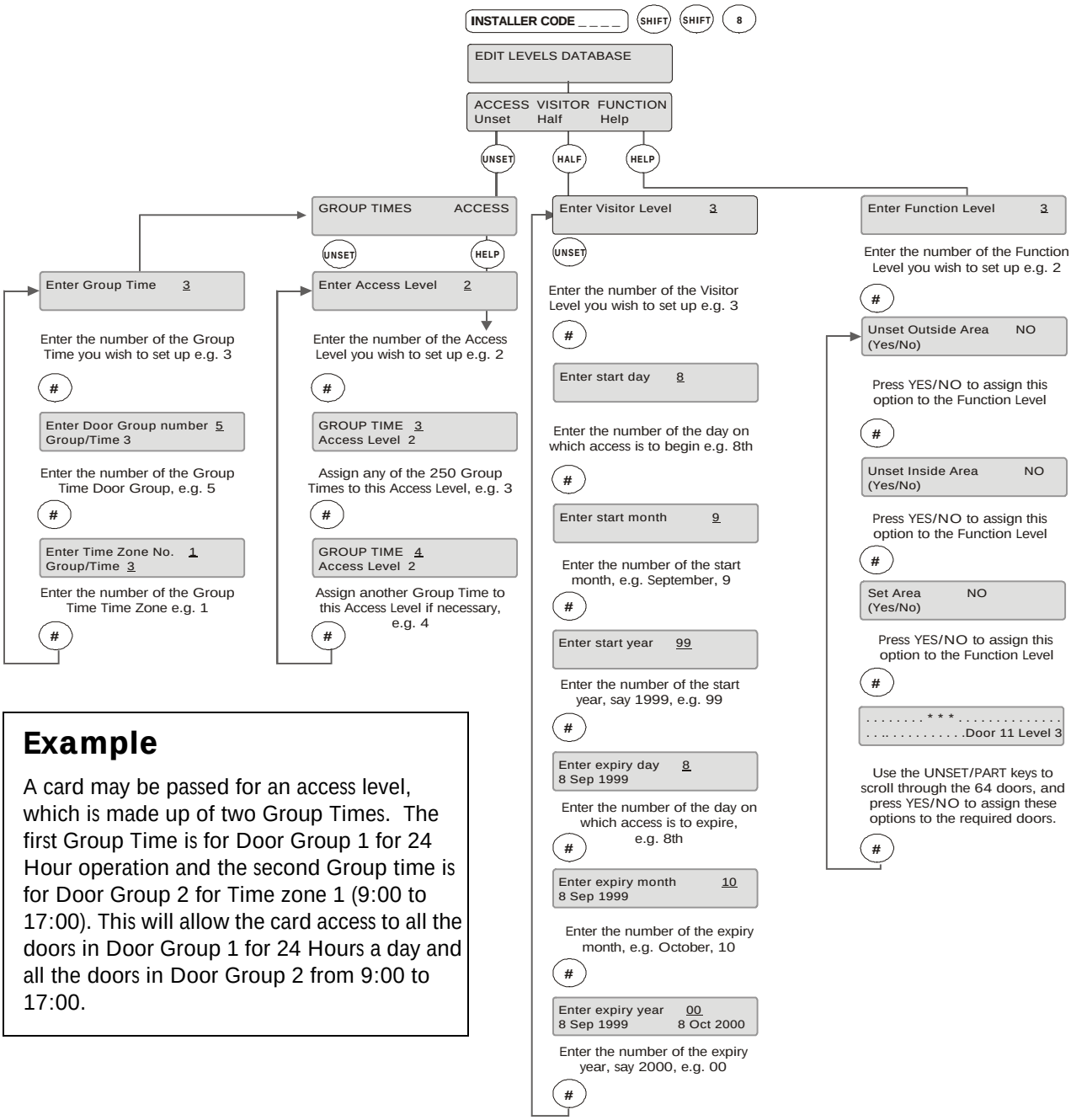
When you select **Permanent**, you are prompted to enter the range of door numbers you wish to open. Enter the From and To ranges. When the Permanent condition is set on a door, the green LED (access granted) on the node will flash. This allows free access through the doors selected until restored or locked.

The **Momentary** sub-menu will ask you for the number of the door you wish to open. Again, enter the number. The green LED will light steadily while access is granted.

Restore restores all door settings to their defaults. Enter the range of doors to be restored and # to accept and quit. Once defaults have been restored, the system is in normal operation and no LEDs are lit.

The **Lock** menu works similarly to Open. When the Lock is manually set on a door, the card reader attached to the door will not read or accept any cards. When the door is locked in this way, the red LED flashes to indicate access denied.

Function: This menu allows you to setup the access, visitor and function levels for the Access Control system



Example

A card may be passed for an access level, which is made up of two Group Times. The first Group Time is for Door Group 1 for 24 Hour operation and the second Group time is for Door Group 2 for Time zone 1 (9:00 to 17:00). This will allow the card access to all the doors in Door Group 1 for 24 Hours a day and all the doors in Door Group 2 from 9:00 to 17:00.

Additional Information

Access Levels

All cards assigned on the 3GS system **must be given an Access Level for operation**. Access levels consist of a list of **Group Times** i.e. **Door Group** and **Time Zone** combinations. A card is passed on the 3GS system by giving it one of the 250 available access levels. Each access level is made up of a selection of the 250 group times available. The group times are made up from any combination of the 250 door groups and 64 time zones.

Function Levels

On the 3GS panel, cards can be used to set/arm or unset/disarm an area or the entire system. A number of functions are provided which can be assigned to doors in the form of a function level. The function level is then assigned to the card. The doors will typically be set up with the EXIT attribute.

The function performed depends on the door type e.g.. if the door is type AREA 12 then the function applies to area 12. In the case of a non-area door type, the function will apply to the whole system.

The card functions that are provided are:

- **Unset/disarm inside the door:**
  If the area is set/armed, then if a card with this function is presented to the entry reader, the user is granted access to the door. When the door is opened it will start the entry timer. This allows the cardholder to unset/disarm the system by presenting the card to the exit reader or entering valid code of the RKD. The time between presenting the card to the entry reader and the exit reader must be within the FUNCTION ENABLE TIME. **[*See page 8-39: Door Configure*].**

- **Unset/disarm outside the door:**
  If the area is set/armed, then if a card with this function is swiped on the entry reader, the user is granted access to the door. When the door is opened it will unset/disarm the system or area immediately.

  If the door is set/armed and the card holder tries to gain access without either of the above unset/disarm functions, then access is denied and the message ACCESS DENIED: DOOR ARMED is logged.

- **Set/Arm:**
  If the door is unset/disarmed, then the cardholder can set/arm the area/system by presenting the card to the exit reader and then presenting it to the entry reader during the FUNCTON ENABLE TIME. Alternatively the cardholder can use the SET button to set/arm the area/system.

When any of these functions are performed they are logged in the security and access logs.

Note *If the SET DOOR PROTECT variable is set to NO then any valid card that has no function assigned will be granted access if the area is set/armed. This is to allow access to cards with no functions assigned.*

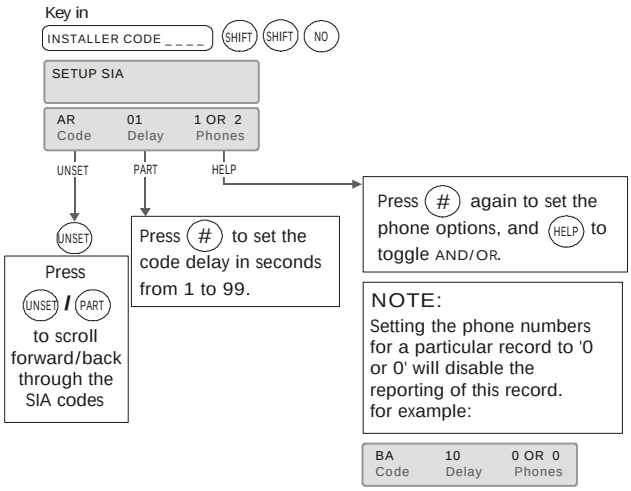
If this variable is set to YES then only valid cards with the unset/disarm function will be granted access. Cardholders who normally unset/disarm the system must be given the unset/disarm function to be allowed access to the building when the system is set/armed otherwise access is denied. DEFAULTS TO NO.

Visitor Levels

All cards can be configured as temporary cards using this facility.

- 250 Visitor Levels are available on the panel, each of which can be set-up with a start date and an expiry date.
- A card passed for a Visitor Level will be valid for the access level it has between the start date and expiry date.
- A visitor card expired message is logged if used after the expiry date.

Function: This menu allows you to select a SIA record, set a reporting delay of 0 to 99 seconds and set a combination of two phone numbers to be used to report the record to the central station. The DM1200 can be programmed to report to both telephone numbers (x AND y) or either number (x OR y).



Additional Information

SIA Reporting

SIA (Security Industries Association) reporting provides greater precision in the reporting of alarm events via a communications device to a Central Station. When used with a Europlex DM1200 digital communicator, SIA will add user name and zone information to every event reported, and will prioritise events for immediate transmission, or for transmission following a pre-set time delay. Once the DM1200 has been configured and tested **[*see page 8-63: Setup DM1200 menu*]**, SIA Reporting is automatically enabled for that panel. Standard alarm events are assigned SIA codes, according to the table below.

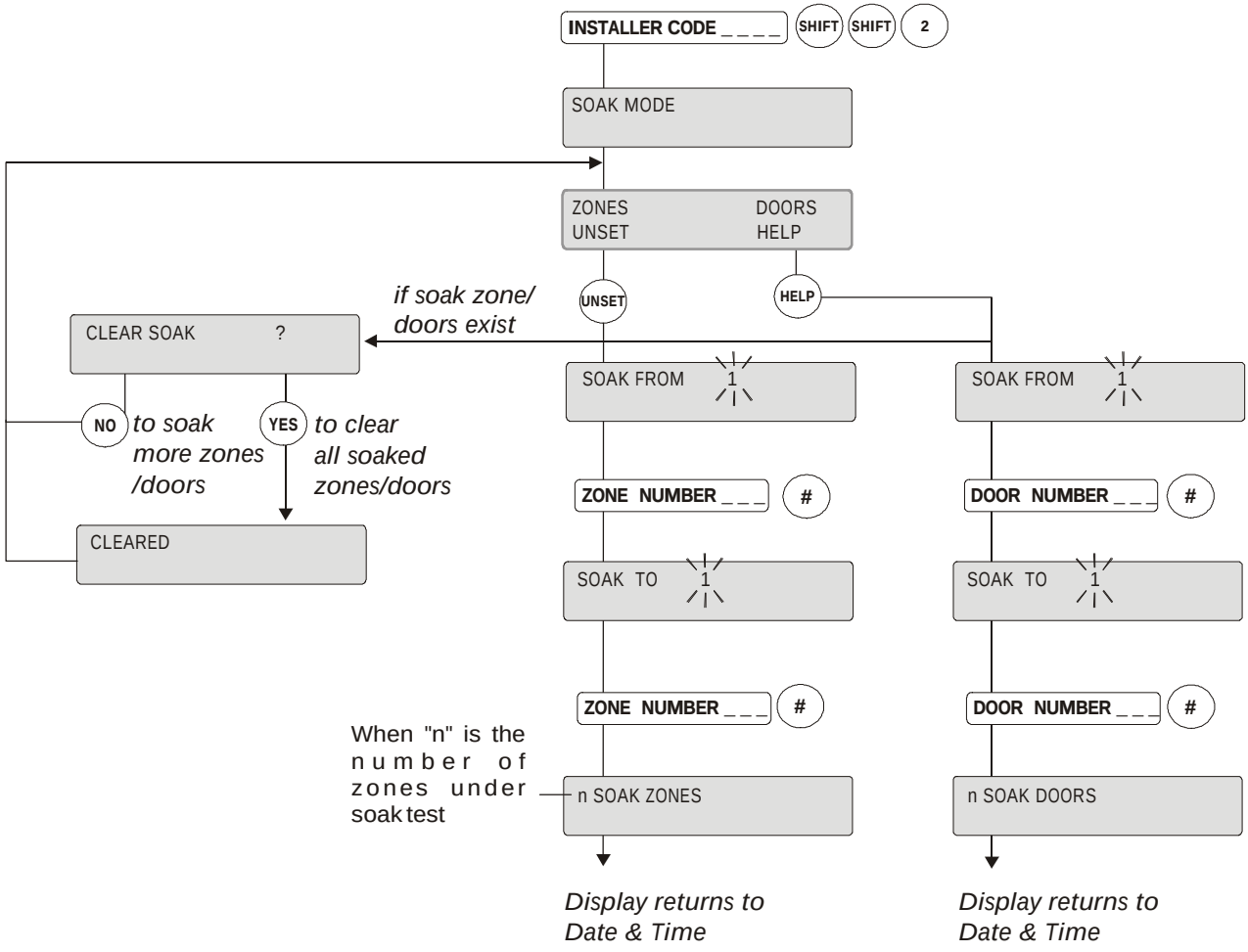
SIA is standard on Version 5.00 software. SIA is only available on Version 3 or greater of the DM1200.

Note *Setting the phone numbers for a particular record to '0 or 0' will disable the reporting of this record. For example:*

SIA codes are:

SIA Code	Alarm Event
AR	AC Mains power restored
AT	AC Mains power fault
BA	Alarm zone opened
BR	Alarm zone reset
BB	Alarm zone inhibited
BT	Short or discon on alarm zone
BU	Zone inhibit removed
CG	System has been Part-Set/ Armed
CL	Alarm area has been Fully Set/Armed
CL1-CL32	Block areas 1-32 have been Fully Set/Armed
FA	Fire Alarm
FR	Fire zone has been reset
FB	Fire zone has been inhibited
FT	Short/discon on Fire zone
FU	Fire zone Inhibit removed
JA	User Code Entry Timeout
OP	Alarm area has been unset/ disarmed
OP1 - OP32	Block areas 1 - 32 have been unset/disarmed
PA	Panic Alarm activated
PB	Panic zone has been inhib-ited
PR	Panic zone restored
PT	Short or discon on Panic zone
PU	Panic zone inhibit removed
RR	Panel has been reset
RX	Test Call
TA	Tamper Alarm
TR	Tamper reset following alarm
YF	Syntax error - system data corrupted
YM	System battery fault
YP	System power supply fault
YQ	Power Supply fault restored
YR	Battery fault restored

Function: This menu allow you to monitor troublesome or suspect zones (sensors/ detectors) in an installation.



Additional Information

Soak Mode

Upon entering this mode the number of zones/doors to be tested can be chosen, whether an individual zone/ door or a block of zones/doors. TAMPER and DISCON activations are not ignored.

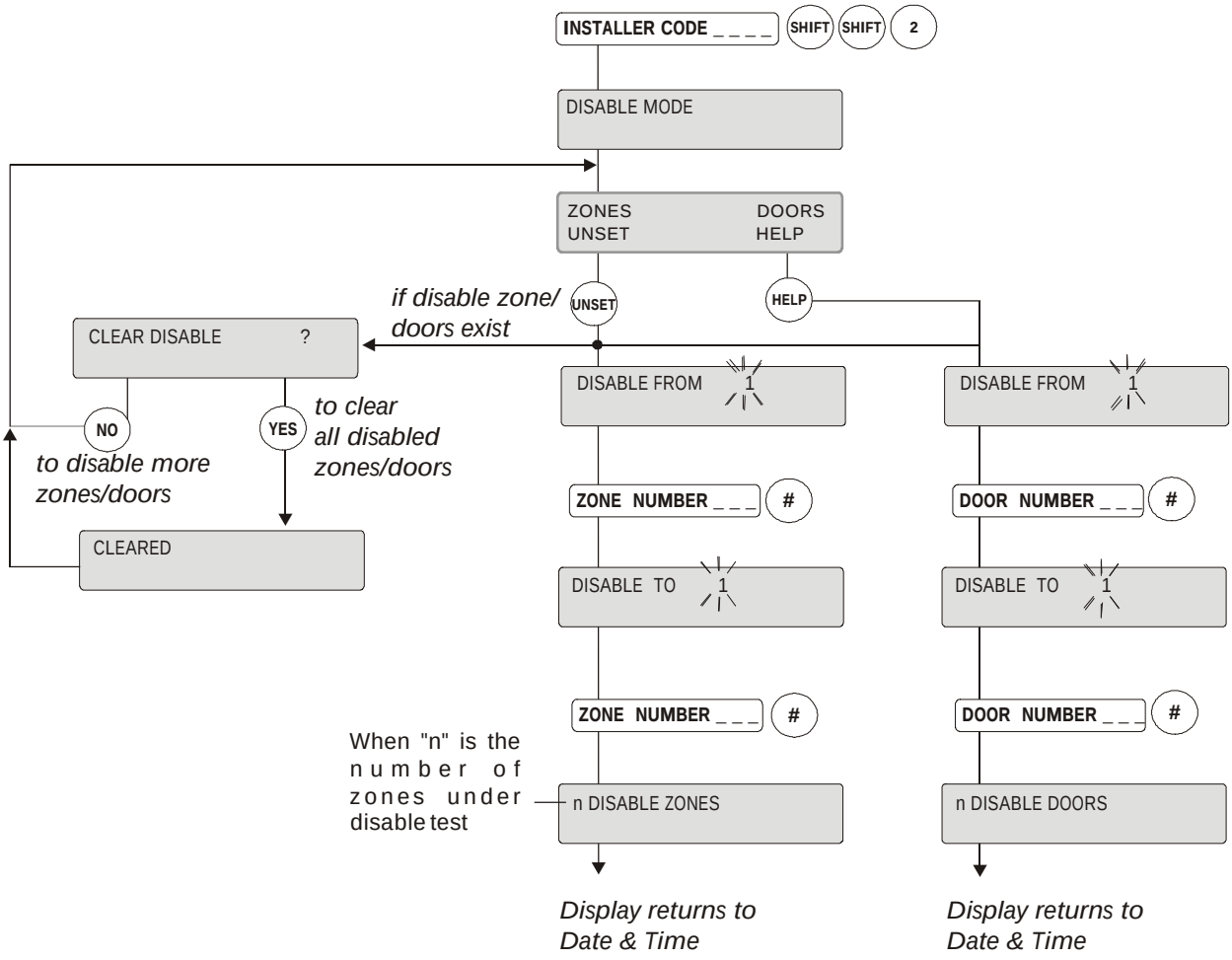
Zones can be soaked individually or in blocks; for example, 3 to 3 or 1 to 20.

Activity is only relevant in FULL SET mode and then it is only logged (no outputs or messages are triggered). No alarms are triggered in any mode.

Soak Mode can be used for troublesome detectors after adjustment to confirm that their operation is reliable before use in system. As all open and closed transitions are logged, with exact time of operation, it is easy to see how often each soak detector operated and for how long.

If no activity is logged during the period of a zone's soak test, the zone automatically returns to normal status (i.e. at next UNSET/DISARM after the expiry of "soak days"). The length of a zone soak test is set in days in the "Variables" submenu **[*See page 8-6: Zones/Doors/Vars*]**. Re-selection of the option allows you to clear all zones/ doors on Soak Test.

Function: This menu allows you to disable zone/door inputs from reporting any change of state (including tamper and discon).The input is effectively no longer connected and can cause no alarm, log and so on. The disable status of inputs is not cancelled on return to unset/disarm mode and remains off until restored by selecting Clear Disables.



Additional Information

Disable Mode

The number of disables, if any, is displayed on each mode change along with a short beep at the RKD.

Disables should only be used as a last resort, for example to isolate a door with an intermittent tamper fault, allowing use of the system until the problem is solved.

On selection, the display shows DISABLE MODE followed by DISABLE FROM1. Key in the number of the input from which disables are to start and press the # key. Key in the number at which the disable ends in the same fashion.

The panel then shows n DISABLES, where n is the number of zones/doors disabled on the system. You are then exited automatically from this menu.

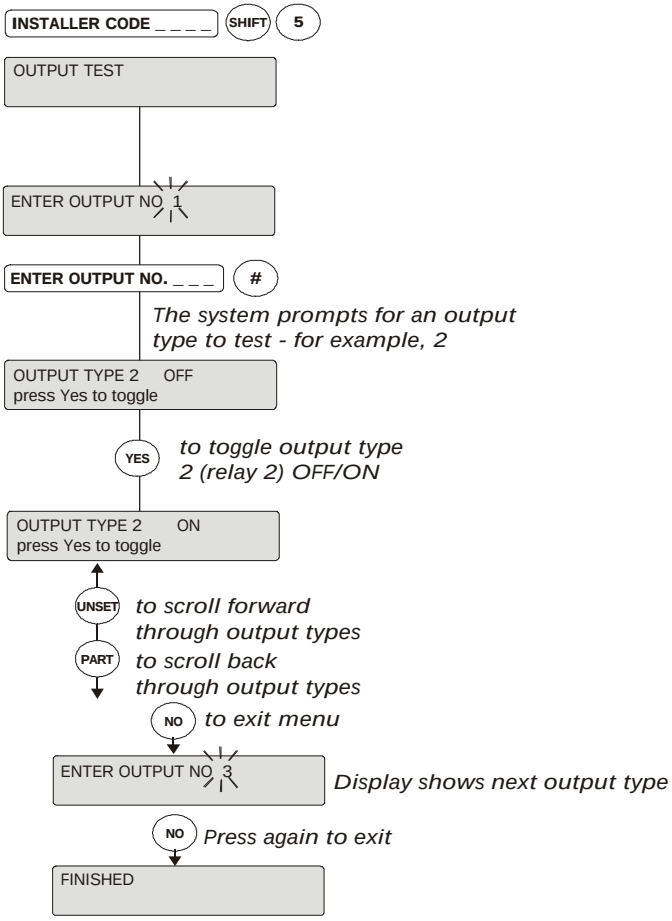
Clearing Disables

On entry into this mode if there are inputs already disabled, the panel will prompt CLEAR ALL DISABLES? which requires a YES or NO selection.

If YES is selected, *all* disables are cleared. Only disabled on-line doors are counted in the disable total.

However, disabled doors can be checked to ensure selection is correct by entering Door Monitor in *Service Mode* menu. If the resistance value is enclosed by "/"this indicates that the input is in fact disabled. Details of disabled doors are logged.

Function: This menu allows you to examine the current state of any output on the system and to toggle it for test purposes.



Additional Information

The display prompts you to enter an output type (all outputs set as this type will be triggered simultaneously). To increment the output type use the UNSET key, to decrement it use the PART SET key (hold down the key to auto-repeat). The display will always show the current state of the output indicated. Use the YES key to toggle the output ON and OFF. The NO key exits the menu.

Output Types

The 3GS system can control up to 255 unique system outputs. The Controller has four on-board 1 Amp relays (default output types 1 to 4) while relays on the I/O nodes can be addressed to any output type (1 to 255). Relay outputs can be used to trigger devices for many applications, such as:

- Siren/bell/strobe triggering
- Camera switching
- System set/arm and alarm indication
- Lighting/heating circuit control
- Door/security barrier control

The Controller, RKD and I/O module relays are normally OFF (de-energised) - that is, when the output is turned ON the relay is energised (except for Controller relay 1 which is *fail safe* and therefore normally ON, power removed - output OFF). For this reason, output1 is Intruder Alarm and is used as the primary alarm indicator.

You can duplicate output types in order to assign any number of I/O module relays the same number, in which case they will respond identically.

For example, output 2 drives the 3GS Controller on-board relay to activate the external sounder and an I/O node output could also be programmed as output 2 to trigger external security lights when the sounder operates. You assign output types using the Node Configure menu. ***[See page 8-22: Node Configure - Outputs].***

Note *For the DM1200 to initiate communications on activation of output 1, the unit must be programmed to view this as a negative trigger. To do this change the output trigger control from POS to NEG.* ***[See - PERIPHERAL DEVICES SECTION:*** *DM1200 CHAPTER 12].*

Power Consumption

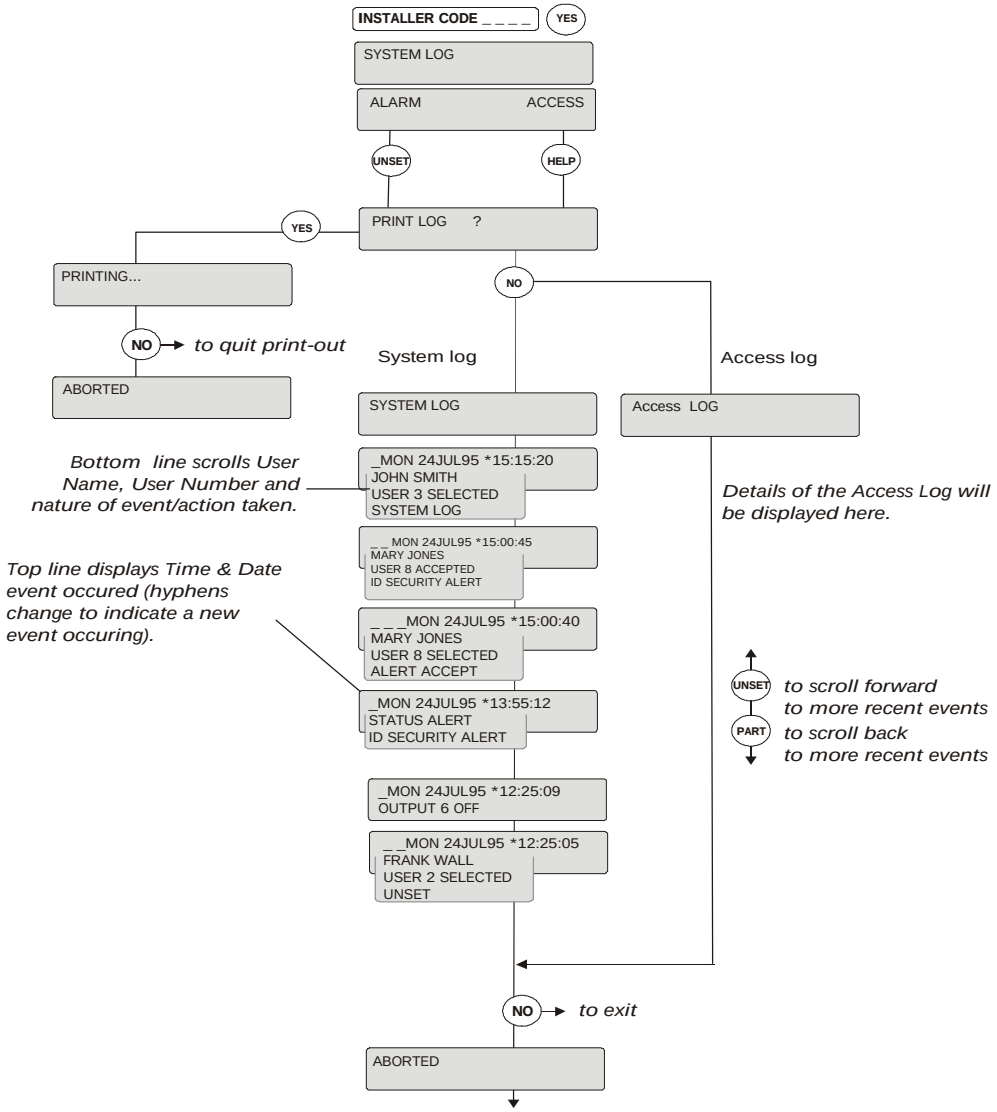
When a 1A relay energises it can typically draw up to 30mA. It is important that you take into consideration this power consumption when calculating PSU requirements, particularly if a 6-output node is in use, where the current drawn by the relays alone may exceed 180mA. Output devices such as sounders/strobes and so on, will also be drawing large amounts of current. Remote power supply units should be used to power I/O nodes in such a situation.

Output functions

Output types range from 1 to 255 with their pre-defined functions. Output functions range from 1 to 1000. The 255 output types may be mapped to any of the 1000 output functions depending on the system requirements. ***[See page 8-68: Edit Output Database]***. The system allows for spare output types with no pre-defined function. For example, 110, 250 to 255.

The 3GS Controller has 4 on-board 1Amp relays, defaulted to types 1, 2, 3, and 4, while relays on the Nodes are not defaulted and can be addressed to any of 255 output numbers.

Function: This menu allows you to view or print either of the two logs maintained by the 3GS system:



Additional Information

- **Alarm and system log.** Maintains a record of the last 1000 alarm events.
- **Access log.** Stores 3000 access log events.

These logs record all activity on the 3GS system, including keypad input, alerts, activities, access and so on. Each event is date-time stamped to the nearest second. To clear either log you need to carry out a cold start.

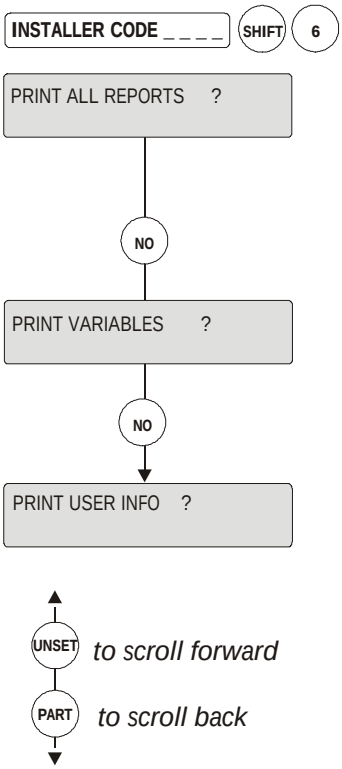
Printing logs

When the option PRINTLOG? is displayed you can print by pressing the YES key (ensure a serial printer is connected and the serial port correctly configured). Otherwise, press NO to display the log on the RKD.

Viewing logs

You can quickly step through the log display (one line at a time) by pressing the # key. An * appears in the centre of the date and time display to make the log easily differentiable from the Unset/Disarm mode display. The date and time remain visible in the display until all information regarding that particular event has been shown. The PART SET key will *rewind* one entry at a time to the first entry of the date currently being displayed, while the UNSET key will skip to the next entry. To leave the system log at any point in the record, press the NO key.

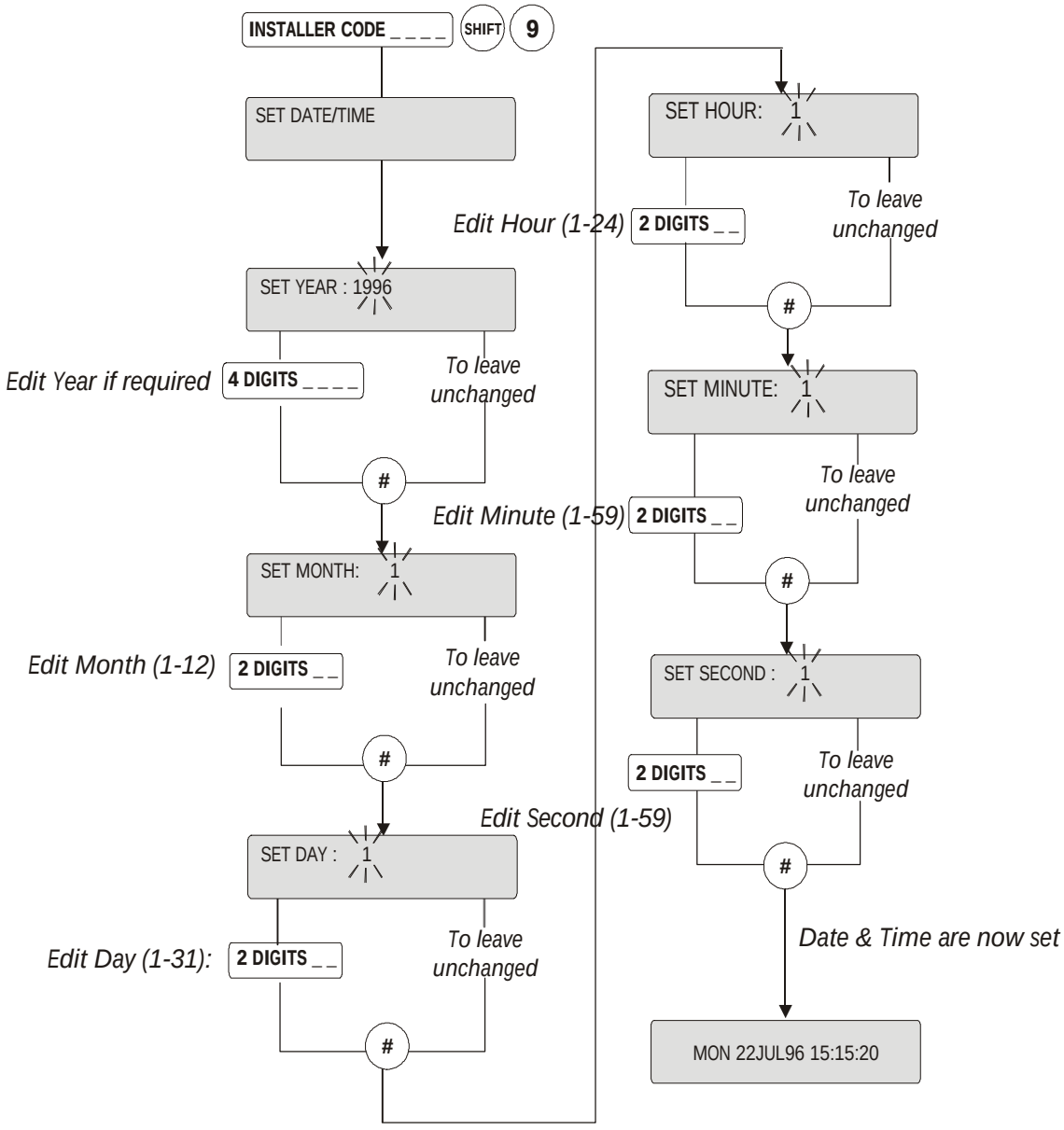
Function: This option provides a print-out of reports on the system configuration.



Additional Information

If not all reports are required, press NO and the option to print each in turn is displayed. If the "PRINT LITS?" option is selected, only those literals which have been modified will be printed. A report print-out may be aborted at any stage by pressing the NO key. Ensure the serial port, to which the printer is connected, is configured for printer operations. ***See page 8-58: Set Data Formats*** for the correct settings (baud rate, parity etc.).

Function: The system Date & Time should be set after a cold start. Note that the time is set in 24-hour clock notation. Use the UNSET / PART keys to scroll through the digits or key in the digits directly.



Note: There are two methods of editing the display

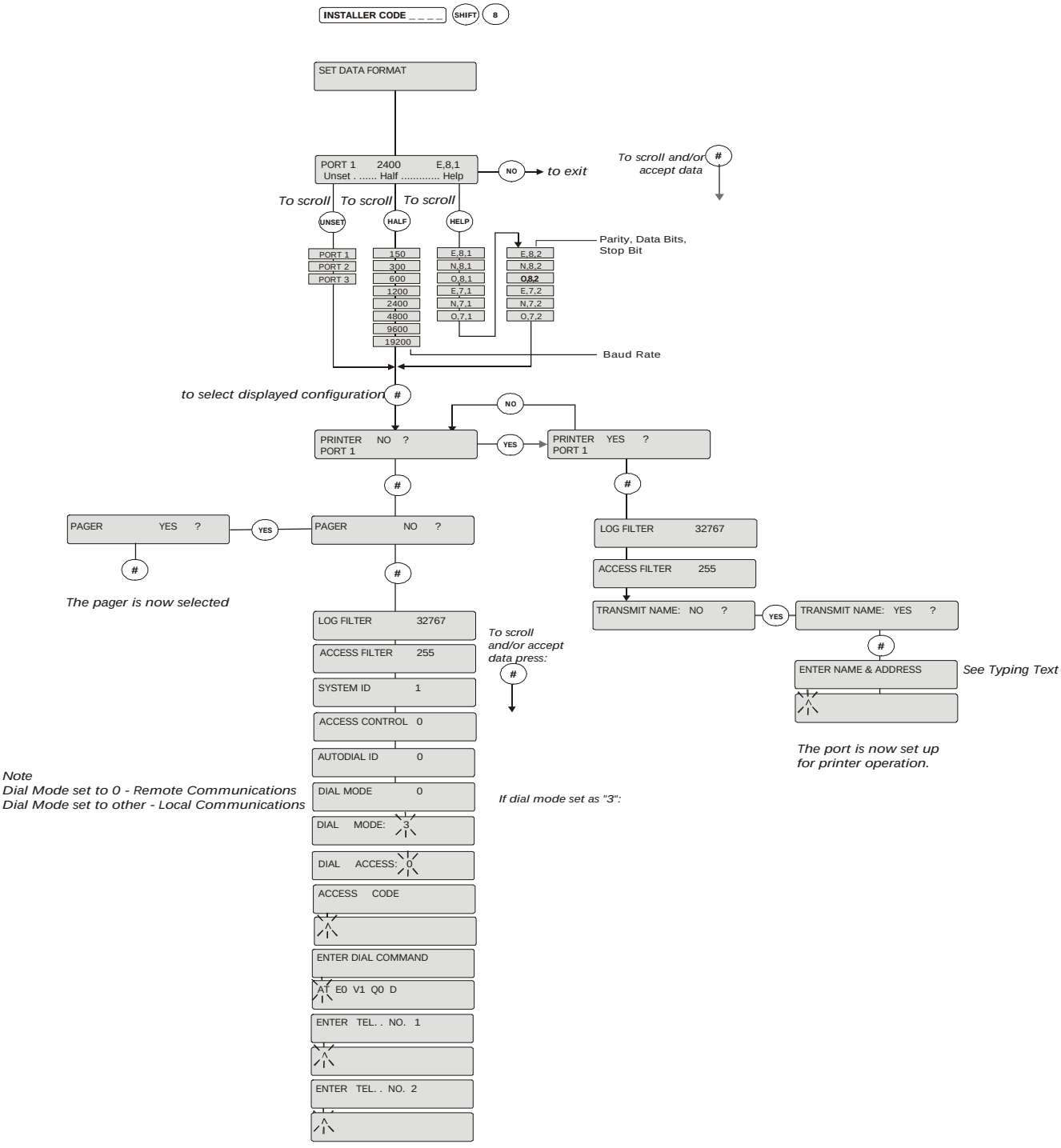
1 Key in digits

To backspace : ✱ To move forward : YES

2 Scroll through digits

To increment digits : UNSET To decrement digits: PART

Function: This menu allows you to configure the Controller's three serial ports for local (direct) connect or remote connect (via modem) to a range of devices, such as a PC, Printer, pager, modem and so on.



Additional Information

Port 1,2,3

Port 1 refers to the RS232 (9-pin) connector located on the right of the Controller PCB. Ports 2 & 3 are TTL and are labelled TX 2/RX2 & TX3/RX3. On ports 2 and 3 the12v supply should not be used to power devices;

instead use 12V supply from 3GS PSU.

Ports can be set to perform the same local function (for example 2 ports set for printer).

Baud rate

You can set up the panel for the baud rates ranging from 150 to 19200.

Parity, data bits and stop bits

Select the appropriate communications protocol.

Parity: E = Even Parity
N = No Parity
O = Odd Parity

Data Bits: 8/7 = 8 or 7

Stop Bits: 1/2 = 1 or 2

Printer

For direct connection to a printer this must be set to YES. Serial Port 3 defaults to PRINTER: YES.

When set to YES data is transmitted out to this port.

Transmit Name

The name and address entered during the initialisation sequence of the system (usually after a cold start) can be printed at the start of every logged text if required.

Pager

For connection to a local pager, set this to YES. Messages will be formatted for the pager before being transmitted on this port.

Log Filter

This controls which event types of logged data are output to the serial port. It allows for filtering of log events based on the log type. The log filter consists of a 16 bit word, where each bit represents a log type. Each log type is shown in the table below. Zone changes are controlled by bit 1. If the bit is SET, then reporting of zone changes is ENABLED. If the bit is not SET, then the log type will be skipped when reporting. Add the number of each log type together to generate the appropriate log filter, e.g. the default value of 32767 allows all events (1+2+3+.....+15=32767).

System (Alarm) Log Filter	
Log Type	**Description**
1	Zone Change
2	Status Change (Alert, Clear, Cancel)
3	User Select, Accept, Denied
4	Output On, Off
5	Lit and Variable
6	8 Bit sentence
7	Lit Sentence
8	Cable Fault
9	Soak Zone, Door
10	Inhibit Zone, Door
11	Disable Zone, Door
12	Enable Zone, Door
13	Access Status Changes
14	Literal Sentence
15	Door Change

The default is: 32767 = all system and alarm events.

Access Filter

This allows for filtering of access (of events based on access log type). To filter certain access log types change these values. See the table below for a list of access log types.

Access Log Filter	
Log Type	**Description**
1	Door Event
2	Card Event
3	Access Node Event
4	Access Exception
5	Time Zone Change (state=0=normal, 1=free access, 2=locked
6	'Control Door Event
7	Access User Select, Accept, Denied
8	Log Card Select, Accept, Denied

The default is 255 (all access events)

System ID

This is used for distinguishing between panels during polling when multiple units are connected to a single serial line. Valid values for a SYSTEM ID are from 0 to 127 inclusive.

Set to 0 for a remote printer set-up. When using the system in auto-dial modem configuration, SYSTEM ID is usually set to a fixed value for all panels (for example 1).

Access control

This variable determines the level of control available to the remote user over a particular panel. Changing this value impacts the level of control available to remote users. See the ESCO Protocol documents for details.

Dial mode

Decides if the panel will dial out and if so when. Also controls communications mode. The legal values are:

0 Direct connect.

1 Dump log data when available to a remote device.

2 Dump log data to a remote device when variable%' is set from the panel, for example by time command.

3 Remote Communications. Allowed based on dial access. The panel dials the programmed modem telephone numbers when data has been logged.

Important *If a DM1200 Digital Communicator is connected, the Dial Mode* **must** *be set to 0. If another communications device such as a modem is in use, set Dial Mode to 3.*

Dial Access

This options controls the access code requirement.

0 Unrestricted access. No access code required.

1 Password access. Access code required before serial comms.

2 Callback. Controller will hang-up after a valid connect sequence from the communications device and ring the pre-programmed telephone number.

Autodial ID

This may be set as any number between 0-9999 and is recognised by communications software as a unique account number for the installation.

Enter Dial Command

This is a set-up command sent by the system to the modem before the modem dials out. The default command for the 3GS Controller is:

```
AT E0 V1 Q0 D
```

Enter tel. No. 1

This is the number dialled by the system when contacting a remote location. This must not be left blank if dial mode is non-zero.

If successful communications cannot be established, a back-up number will be dialled (below).

Enter Tel. No. 2

This is the back-up number which is dialled if connection is not established using the primary telephone number. This may be left blank if a back-up facility is not required.

Modem communications

The following describes important parameters and modem settings required for high speed modem configuration (9600 bps and 19200 bps) to the 3GS Controller

The commands detailed refer specifically to Multitech modems. For other modem types, please refer to manufacturer manual for equivalent settings.

The following tables show parameters to be set for modem communication (in this case Multitech modem) with Panelman / ED2000:

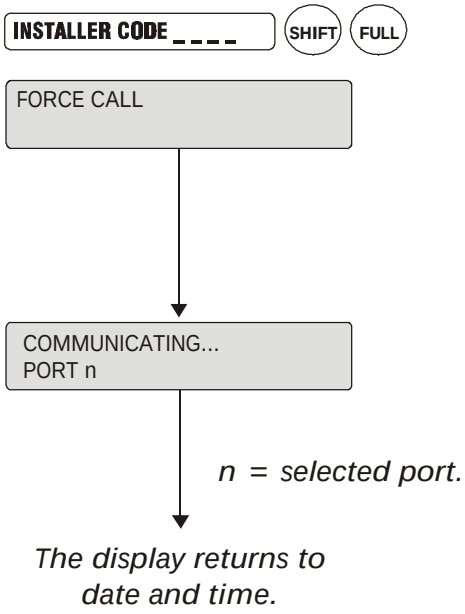
Normal settings:

Parameter	Description	AT Command(s)
Echo	Turn echo off	E0
Response	Include connection speed in response	X1
Verbose	Modem responds in 'words' rather than code	V1
Auto Answer	Accepting incoming call after specified number of rings	S0=1
Flow Control	Both Hardware and Software based flow control must be disabled	&E3
DTR Signal	The PC will normally provide its modem with Data Terminal Ready (DTR) signal. If this is not available the Modem will not respond. The panel doesn't provide DTR, so its modem must be configured to ignore this signal	&D2 (PC) &D0 (Panel)

High speed settings:

Parameter	Description	AT Commands
Max Speed	Sets upper limit for incoming and outgoing speeds	$MB19200 $SB19200
V.42 Error Correction	Disable Error Correction. This means carrier signal will be established once speed is matched	AT&E0
Data Compression	Data Compression should be disabled	AT&E14
V.32 Terbo Tones	For communication at 19200bps the connection response CONNECT 19200 (rather than CONNECT 14400) is required. Not all Multitech modems support this feature	AT#V0

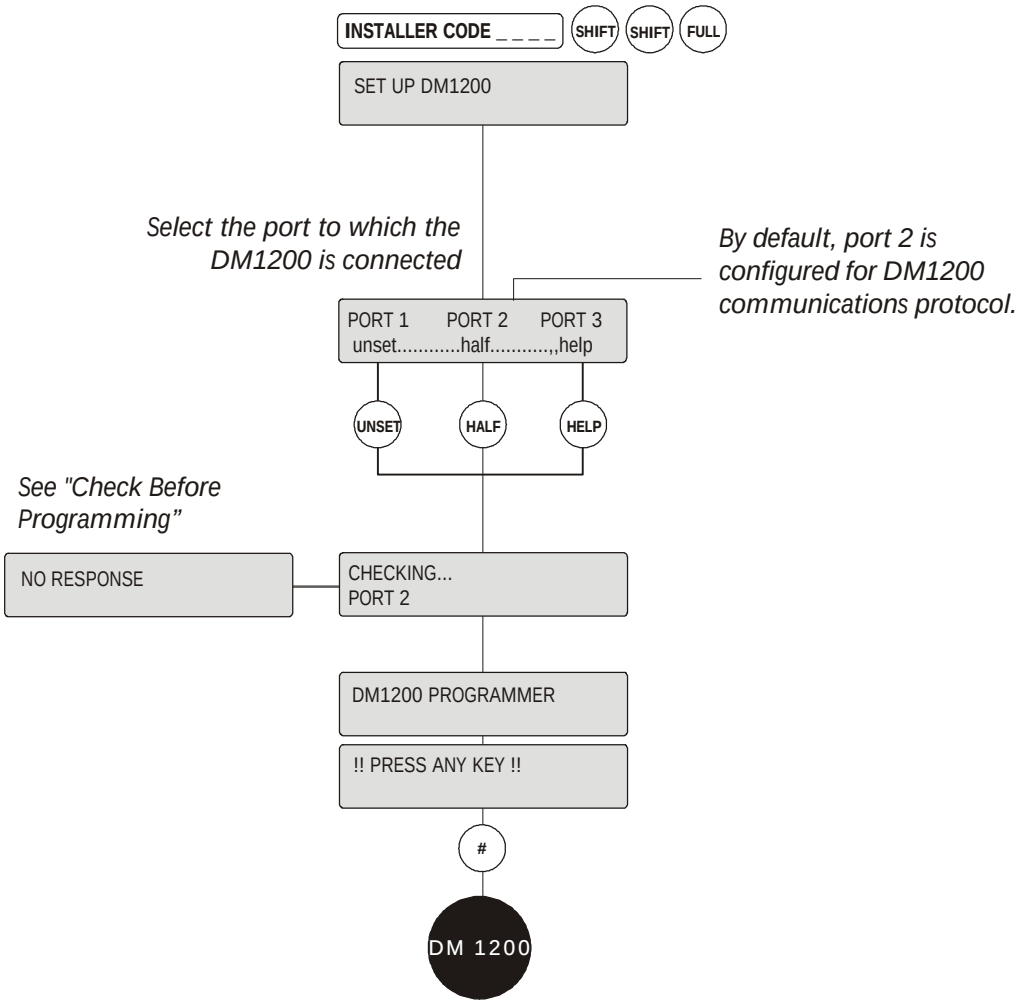
Function: This menu allows you to initiate a call from the 3GS to the telephone number programmed in the Set data Formats menu or to the telephone number programmed in the DM1200 menu.



Additional Information

By selecting Force Call the 3GS will dial the connected modem's primary telephone number **[*see page 8-58: Set Data Formats*]** and establish communications with a remote PC. This could be used as a test function or to allow personnel at a remote location to perform system maintenance using Panelman software. The 3GS serial port will already have been configured and a DM1200 or modem connected.

Function: This menu allows you to configure the Controller to communicate via the Europlex DM1200 digital communicator.

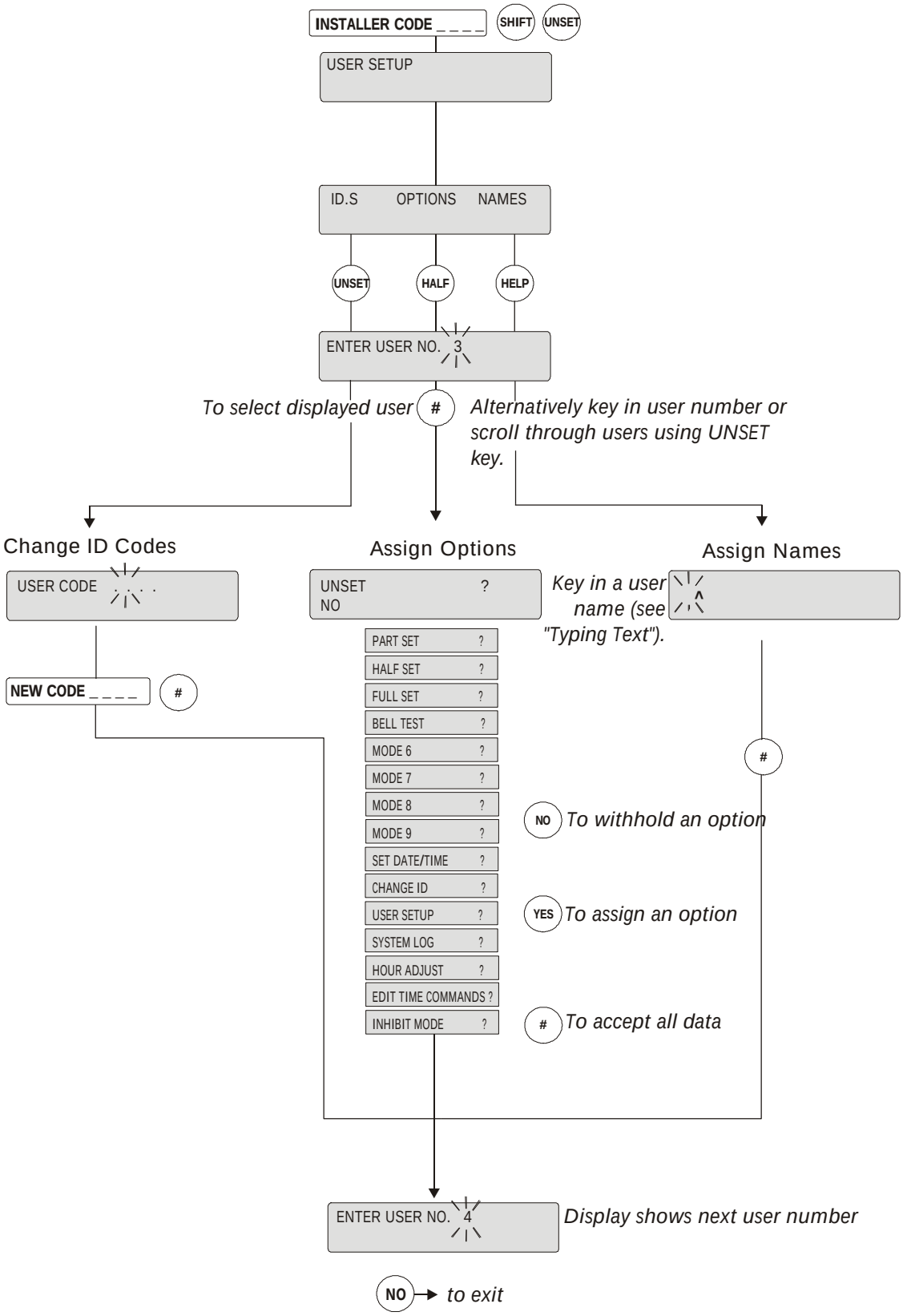


Additional Information

DM1200: [See DM1200 Chapter 12, Page 12-11]

This menu gives you access to the DM1200 programming menus for configuration.

Function: This menu allows you to set up users and user names. You, the installer, cannot assign options to system users, this must be done by the Master User. The Master User has all options, by default, and this cannot be removed.



Additional Information

ID Codes

The first step should be to change the master default code (1020) by selecting “ID.S”. All system users should be assigned codes in the same fashion. If required, the user can assign his/her own code by using the “Change ID” option (the master user must give the user this option). An ID code must have 4 digits.

Note *The 3GS has a “Duress” facility whereby in a crisis situation a user may activate a silent panic alarm (no bells/ sirens and communication is initiated) by incrementing their ID code by 1. For example if code is 1239, entering 1240 will generate a duress alarm. Therefore it is not advisable to assign sequential codes (for example 1234, 1235) as the lower code cannot utilise the Duress facility.*

Options

The system users can be assigned options as required. Press YES to assign an option, NO to withhold and scroll forward. When the options have been assigned press # to accept. The next user number is displayed. When scrolling through the user help menu, a user will only see those options which have been assigned to them.

If the “USER SET UP” option is given to a user, that user may assign options to other users. However, the user is restricted to assigning only those options they possess themselves.

Names

Up to 23 characters may be entered for a user name. This greatly enhances the interpretation of the system log, identifying by name who set/armed or unset/ disarmed the system etc. When “NAMES” is selected, a flashing cursor appears. Place the text overlay on the keypad to identify characters and key in names as shown in “Typing Text”.

As an alternative to the “User Set Up” option, codes/ options/names may be downloaded from a PC using Panelman software.

The first option to be displayed is “Unset?”. To give a user the option to unset/disarm the panel, press the YES key. Continue in this fashion until the required options are assigned and then press # to accept the data.

No.	Name DEFAULT	Code	Options	Restrictions/Uses
1	ENGINEER	1010	Engineer options only	Cannot assign or withhold options.
2	MASTER	1020	All options	Cannot remove own options.
3 to 126		1030	None	General users are assigned options by the Master User.
37	AUTOMATIC	None	None	When the system executes an automatic time command it is logged as User 37.
38	REMOTE	None	None	Options performed via any of the systems serial ports are logged as User 38.
39	INSTANT	None	None	Reserved for dedicated function keys.

Function: The Area Setup menu allows you to set the number of areas to be active in the system and assigns Area Set/Arm and Unset/Disarm rights to the system users, keypads to areas and programming area names.

Additional Information

The system currently allows for up to 32 areas, and can be set/armed for any number of areas up to 32.

Setting the number of areas in the system is an installer option *only*. The option to assign user rights to areas is available to both Installer and Master User.

Providing the user with an area gives them the right to set/arm or unset/disarm that area. However, the user must also be given the PART SET user option for area set/arm, and the HALF SET user option for area set/arm **[*See - SOFTWARE SECTION:* *USER GUIDE CHAPTER 9*]**. This allows the user to be given the right to set/arm or not set/arm an area. Installer's are not allowed to set/arm or unset/disarm areas.

Once the user set/arm or unset/disarm rights have been assigned, they are effective immediately, so that individual users will only be able to set/arm or unset/disarm those areas to which they have rights. PART and HALF keys are used for Area Unset/Disarm and Area Setting/Arming. **[*See - SOFTWARE SECTION:* *USER GUIDE CHAPTER 9*]**. Setting the number of area to 0 will configure the system for no areas and PART and HALF keys are used to PART SET and HALF SET the system.

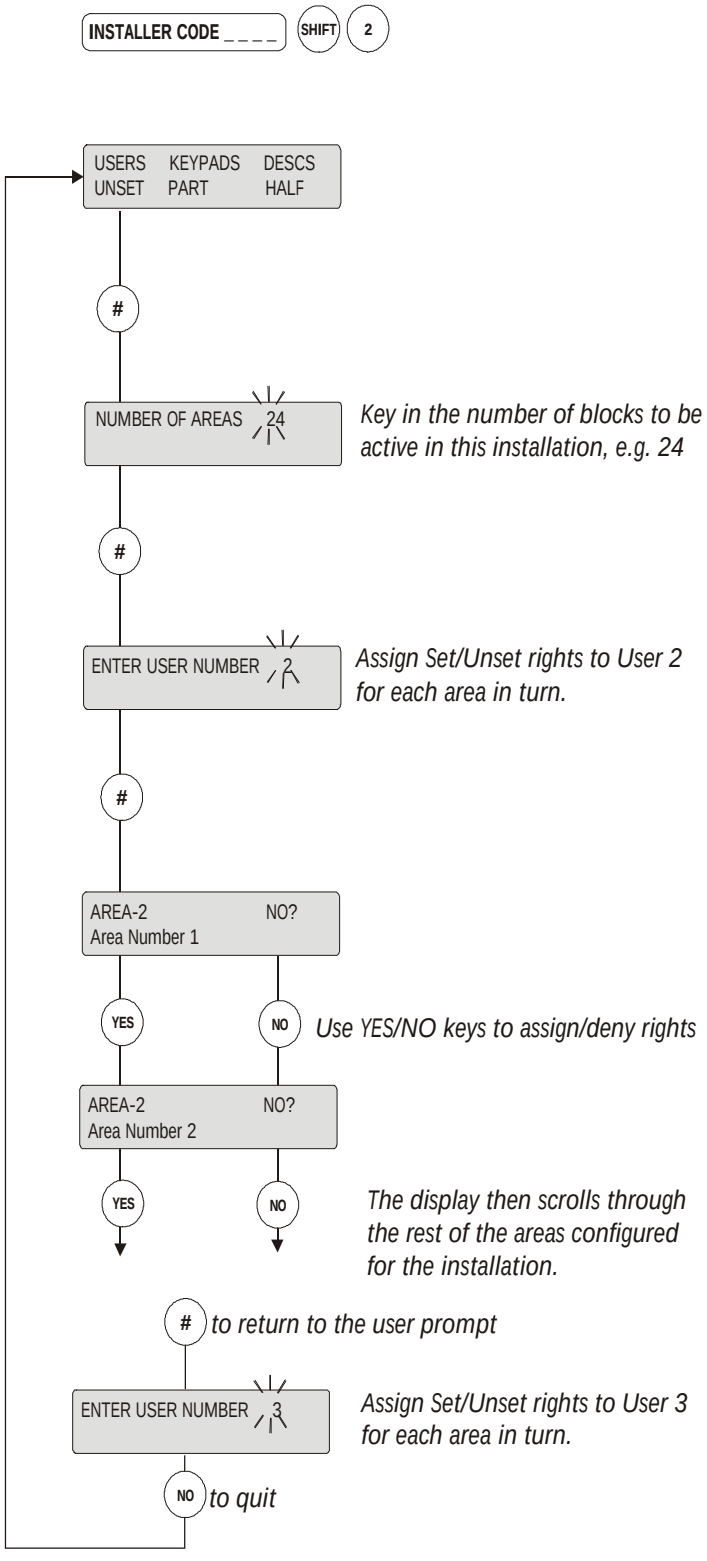
Area Keypads

Use this option to assign keypads to areas so that messages for individual areas can only be seen on the keypads assigned to the area.

The system may be set up so that each area has a keypad installed at a point convenient to the Exit/Entry route. In this case, you should assign this keypad to the area. Once assigned, the keypad will display only those alert messages relating to that particular area, and when the user is setting the system, will display the number of that area first, allowing instant setting.

Alternatively, one keypad may be positioned at a point central to a number of areas, for example Areas 5 and 7. In this case, the keypad can be assigned to both areas, and will then display messages for these two areas only. When setting, the display will prompt the user to first set/arm Area 5, followed by Area 7, and will then scroll through the other areas configured.

When arming an area the keypad shows the current area(s) to which the keypad is assigned. However, the flashing cursor enables the user to key in the number of any area instantly and set/arm that area, provided the



user has setting/arming rights.

In the example shown, the keypad has been assigned to Areas 5 and 7.

This keypad will now display messages for Areas 5 and 7.

AREA UNSET
Area Number 5

AREA UNSET
Area Number 7

Zones and doors that are open in the areas assigned to a particular keypad can be displayed at any stage by pressing the ***** key.

Private Mode

The private mode feature prevents two separate users from configuring the system at the same time. When one system RKD is in use, an attempt to key in at any other system the RKD will produce the message: System Busy... Please Wait. The keypad continues to display this message until the user at the other keypad has finished, when it returns to normal day/date/time.

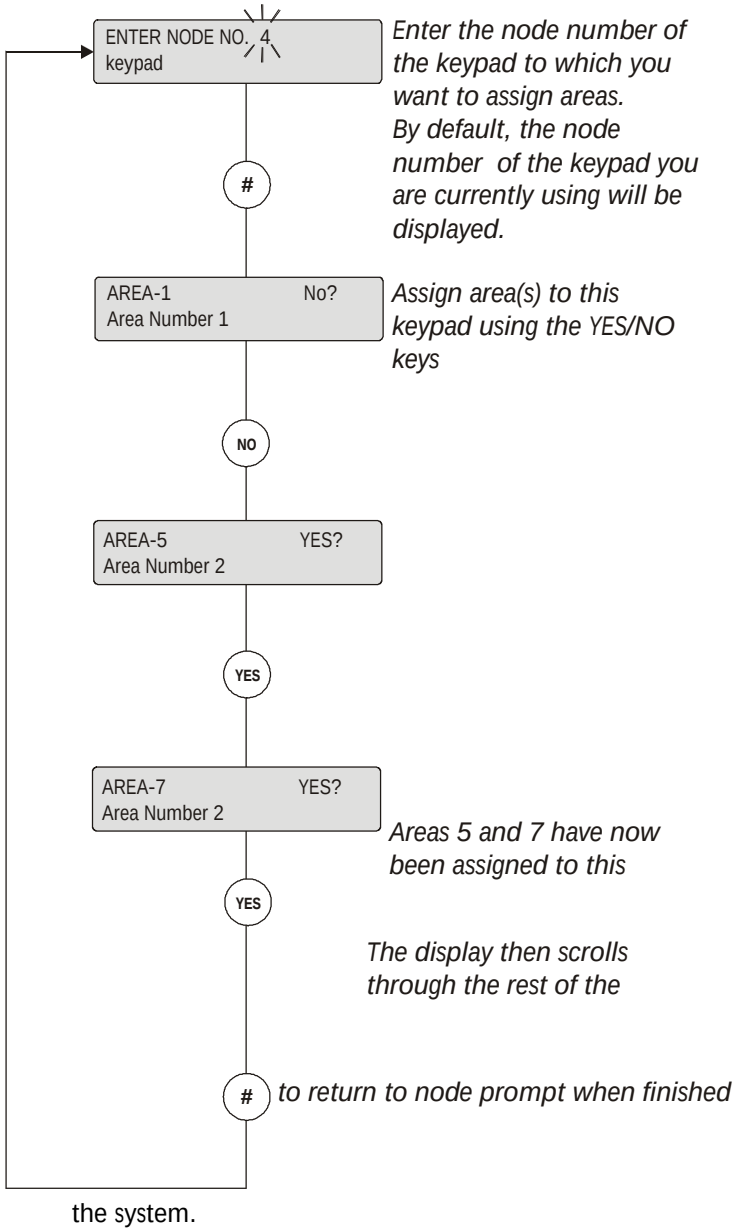
Area Descriptions

Like 3GS zones, doors or cards, system areas can be given individual descriptions for ease of identification. Descriptions are entered by entering text. **[*See page 8-2: Typing Text*]**. Once entered, the description is effective immediately and is given in any alert messages, log entries and printed reports.

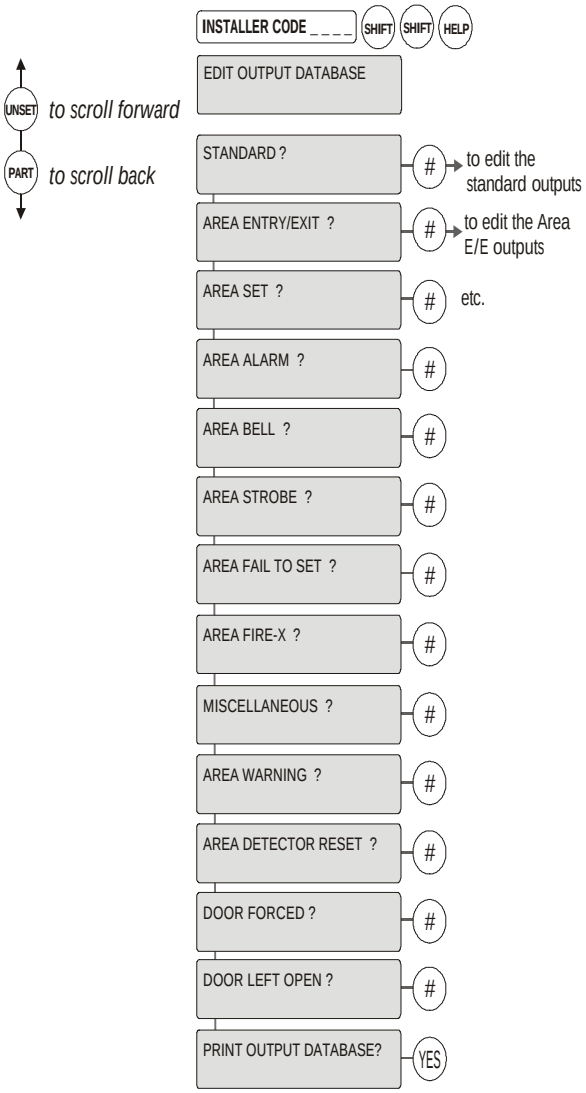
Printing Area Information

When you exit the Area Setup menu, you are prompted to Print Area Options? and to Print Modes?

When you print Area Options, the resulting report details the user area rights, number and name of system users, areas assigned to keypads, and total number of areas in the system. The Print Modes option will give a report on the current status of each area on the system.



Function: This menu allows you to map an output function to an output number (1 - 255).



Additional Information

In a complete 32-area, 64-door system, each area will require an output for the following events: Area Set/Arm, Area Fail to Set/Arm, Area Alarm, Area 10-minute Warning, Area Detector Reset, and also (depending on the device type device in use) Area Strobe, Bell or Fire-X.

Given the limit of 255 different output numbers, it will be necessary to customise the output list to suit individual systems. For example, if the installer wants Area Fails To Set/Arm condition to drive the system buzzer, and all Areas are programmed in the same way, then the output types Area 1 to Area 32 Fail to Set/Arm (by default outputs 144 to 175) may all be given the same output number 8. In this way, an Area Fail to Set/Arm condition in any area will result in activating the system buzzer.

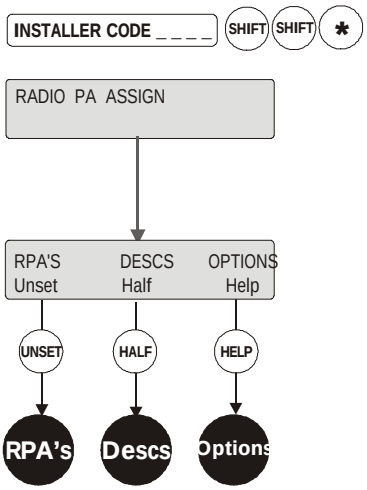
If there are 30 doors on the system, the Door Forced condition for all 30 doors may be set to the same output number, for example number 7 Internal Bell, and so all doors will respond in the same way when forced.

In the default output list, outputs 110 and 250 to 255 are unassigned. Certain output types have been given a zero default value. The table below lists all available output types and their current values. The sub-menus divide the outputs into standard, Area exit/entry, etc.

Menu option	Function	O/P no.	Menu option	Output	O/P no.
Standard	Intruder	1	Area Fail to Set/Arm	Area 1 to Area 32 Fail to Set/Arm	144 - 175
	External Bell	2		Common Area Fail to Set/ Arm	176
	Panic	3	Area Fire-X	Area 1 to Area 32 Fire-X	177 - 208
	Full Set/Full Arm	4		Common Area Fire-X	209
	Fire	5	Miscellaneous	PIN Code Alert	210
	Tech	6		PIN Code Duress	211
	Internal Bell	7		Installer On-Site	212
	System Buzzer	8		Line Fault	213
	Verified Alarm	9		Raid Camera	214
	Modem	10		Photo Entry	215
Area Exit Entry	Exit/Entry Area 1 to 32	11 - 42		Suspicion	216
	Common Area Exit/Entry	43		Unset Local	250
Area Set/ Arm	Area 1 Set/Arm to Area 32 Set/Arm	44 - 75		Duress	251
	Common Area Set/Arm	76	Area Warning	✯Area 1 to Area 32 10m warning	0
Area Alarm	Area 1 Alarm to Area 32 Alarm	77 - 108		✯Full Set/Full Arm 10m warning	0
	Common Area Alarm	109	Area Detec- tor Reset	✯Area 1 to Area 32 Det. Reset	0
Area Bell	Area 1 Bell to Area 32 Bell	111 - 142		✯Common Area Det. Reset	0
	Common Area Bell	143	Door Forced	✯Door 1 to Door 64 Forced	0
Area Strobe	Area 1 to Area 32 Strobe	217 - 248	Door Shunted	✯Door 1 to Door 64 Left Open	0
	Common Area Strobe	249			

✯: The output type has not been given a default value.

Function: This menu allows you to setup radio panic attack button units on the system, assign descriptions to these units and allocate options to each one.



Additional Information

RPA: [See Page 8-71]

These units must be learned onto the system and assigned an RPA number to function correctly. Each RPA button unit has a unique number encoded into its memory for identification.

Descs: [See Page 8-72]

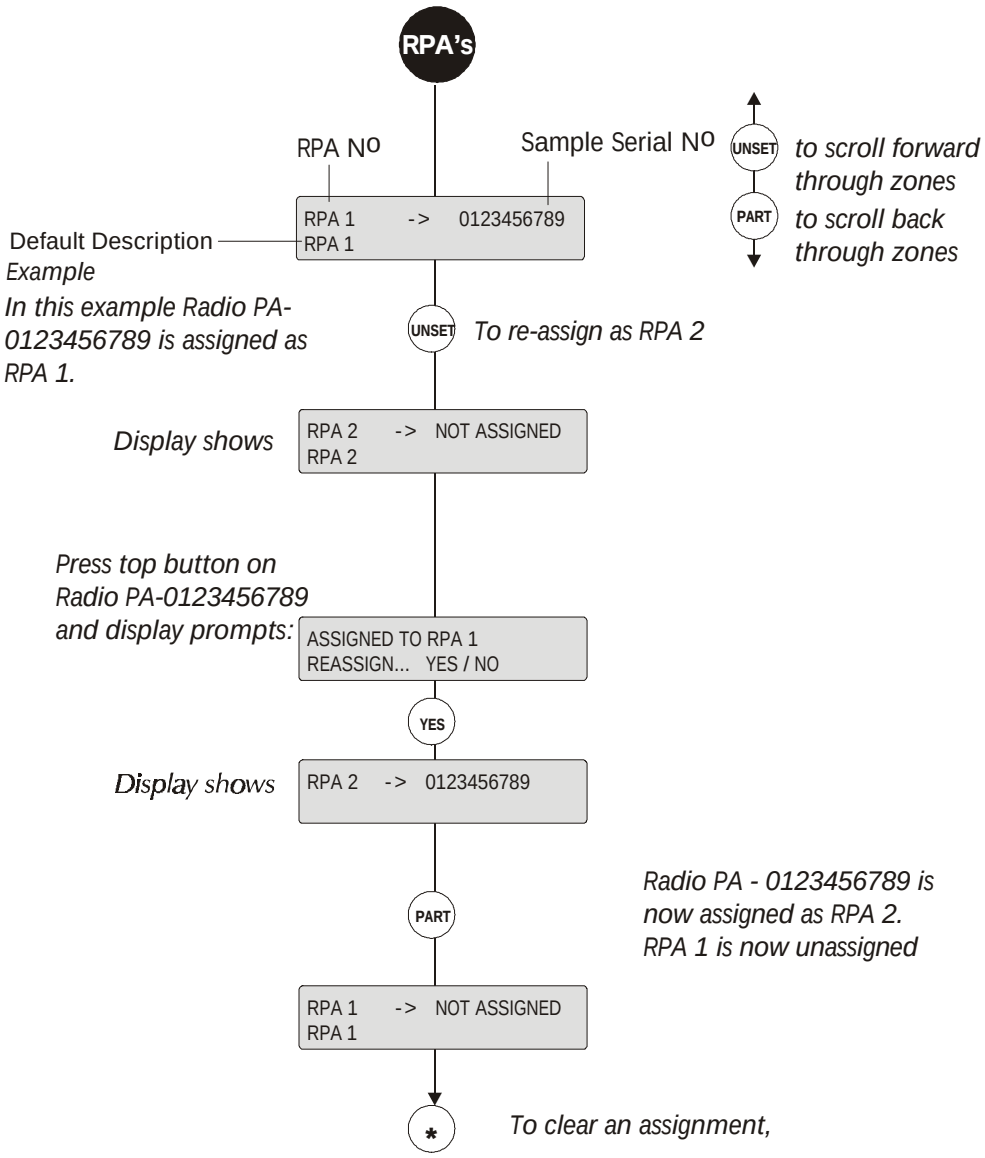
This is a 23 character text message for the RPA user name or RPA location.

Options: [See Page 8-73]

Each RPA can be assigned a set of options based on the button combinations.

menu RADIO PA ASSIGN➲ RPA'S

Function: This menu allows you to put an RPA unit on the system.

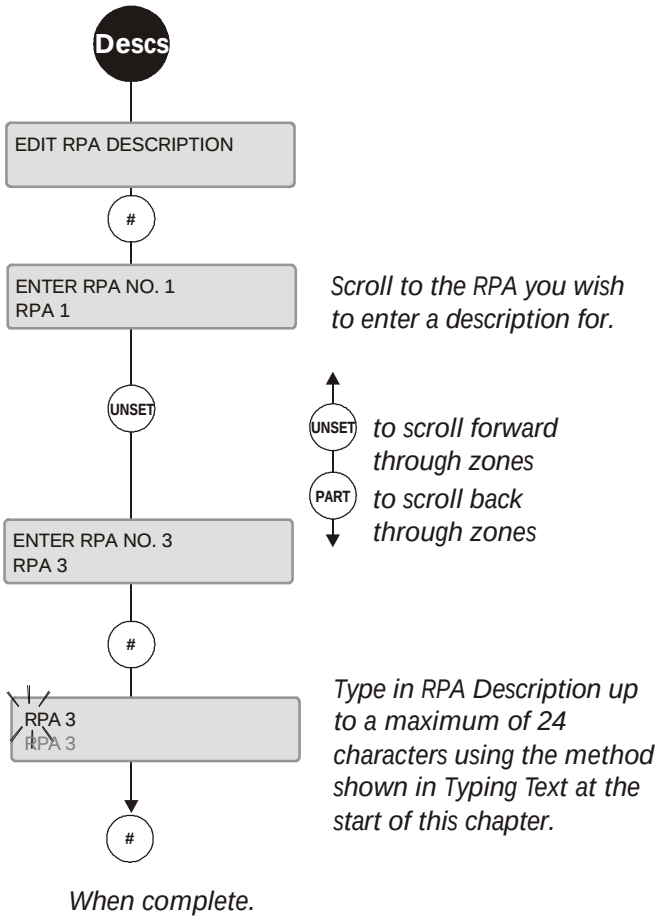


Additional Information

Each Radio PA (RPA) unit is encrypted with a unique ten-digit serial number. The 3GS Controller uses this serial number to identify the RPA. In order for the system to recognise individual units, it is necessary to assign an RPA NUMBER to each unit from 1 to 126. This is achieved by selecting the "RPAS" option and pressing any RPA button. The RPA's serial number is displayed along with an RPA number. RPA numbers may be reassigned if required.

menu RADIO PA ASSIGN➲ DESCRIPTIONS

Function: This menu allows you to program a RPA description.



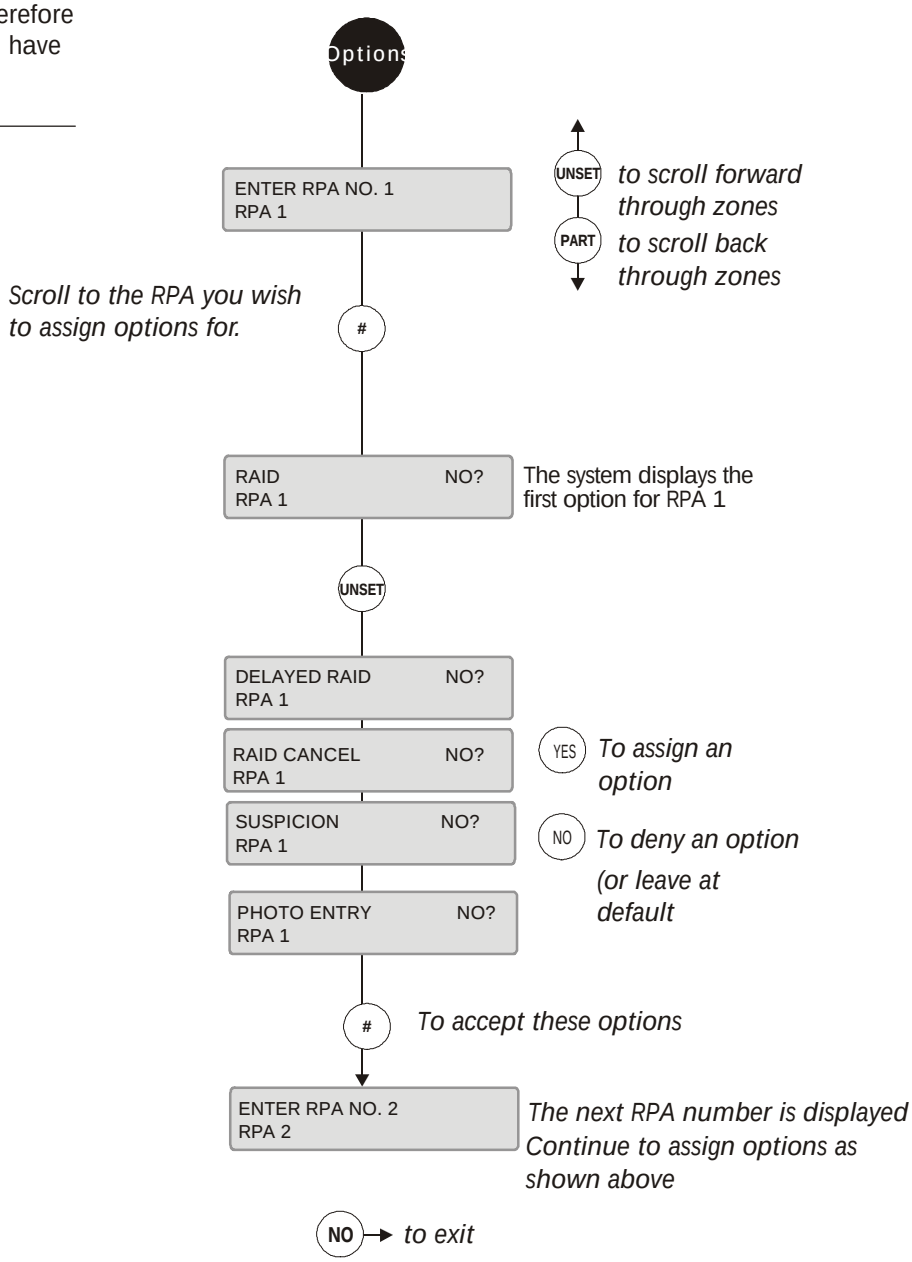
Additional Information

An alphanumeric description of up to 24 characters (i.e. RPA user's name) may be assigned to each RPA unit after it has been assigned an RPA number. This is achieved by placing an overlay card on the numeric keypad and inputting characters from within the "DESCS" menu option. A default description (based on the RPA number) will already exist, e.g. RPA 1. Edit this description using the method described in *Typing Text* at the start of this chapter. Alternatively, descriptions can be entered using Panelman

menu RADIO PA ASSIGN➲ OPTIONS

Function: This menu allows you to setup RPA options for each unit.

➤ IMPORTANT : By default, the RPA units have NO options and therefore will NOT operate until options have been assigned as YES.



Additional Information

There are currently six programmable options which provide an arrangement of uses for the RPA buttons. Individual buttons (or a combination of buttons) can be assigned an option within the *Radio PA Set Up* menu, provided it is granted to the RPA unit within the *Options* menu first. For example, on RPA units, if the left button is required to activate a *Delayed Raid* option, and the right button is to activate *Raid Cancel*, both of these options must be granted to the individual RPA unit concerned. By default, RPA's are assigned no options and therefore failure to assign options as described means the units will not operate. As up to 7 different button configurations may be obtained by pressing the buttons singularly and as combinations, all seven options may be assigned to each RPA unit. Details of these options are given overleaf.

Raid

The Raid option causes an instant silent alarm. When selected, this option turns on the Panic and Raid-Camera outputs and triggers the pager units immediately. NO alert appears on the RKD until a System Unset/Disarm is performed, whereby a 'Radio Panic Alarm' is displayed along with the RPA description that triggered the alert. The action is recorded in the system log.

Delayed Raid

This option operates identically to the "Raid" option except that the activation of the Panic output is delayed for 90 seconds. This provides the opportunity to cancel the panic output (assuming the "Raid Cancel" option has been granted) and therefore prevent consequent action, e.g. central station communications.

Raid Cancel

This option resets the Panic and Raid-Camera outputs provided it has been selected within 90 seconds of the Panic output being triggered. The pager units are triggered and the action is recorded in the system log. The user must still unset/disarm the system to clear the Panic alert messages.

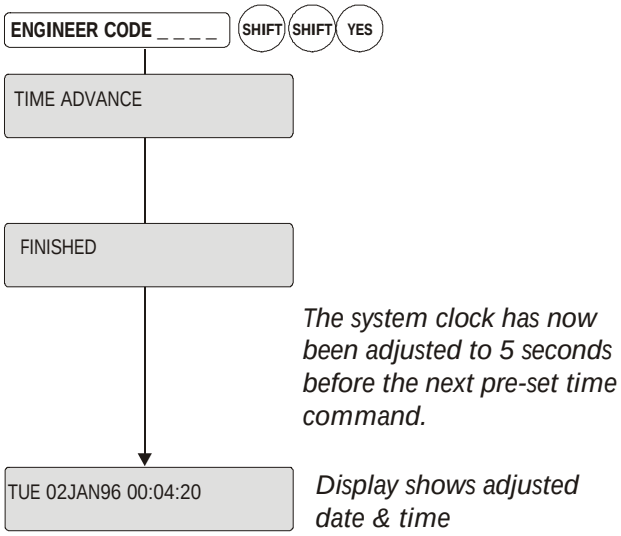
Suspicion

When selected, this option turns on the suspicion output (which will, typically, activate the same camera as the raid camera output) and triggers the pager units immediately. A suspicion alert is displayed with the RPA description that triggered the alert and is recorded in the system log.

Photo Entry

When selected, this option turns on the suspicion output for approximately 5 seconds which will activate a CCTV camera and record personnel entering the premises.

Function: This menu allows you to advance the time on the 3GS.

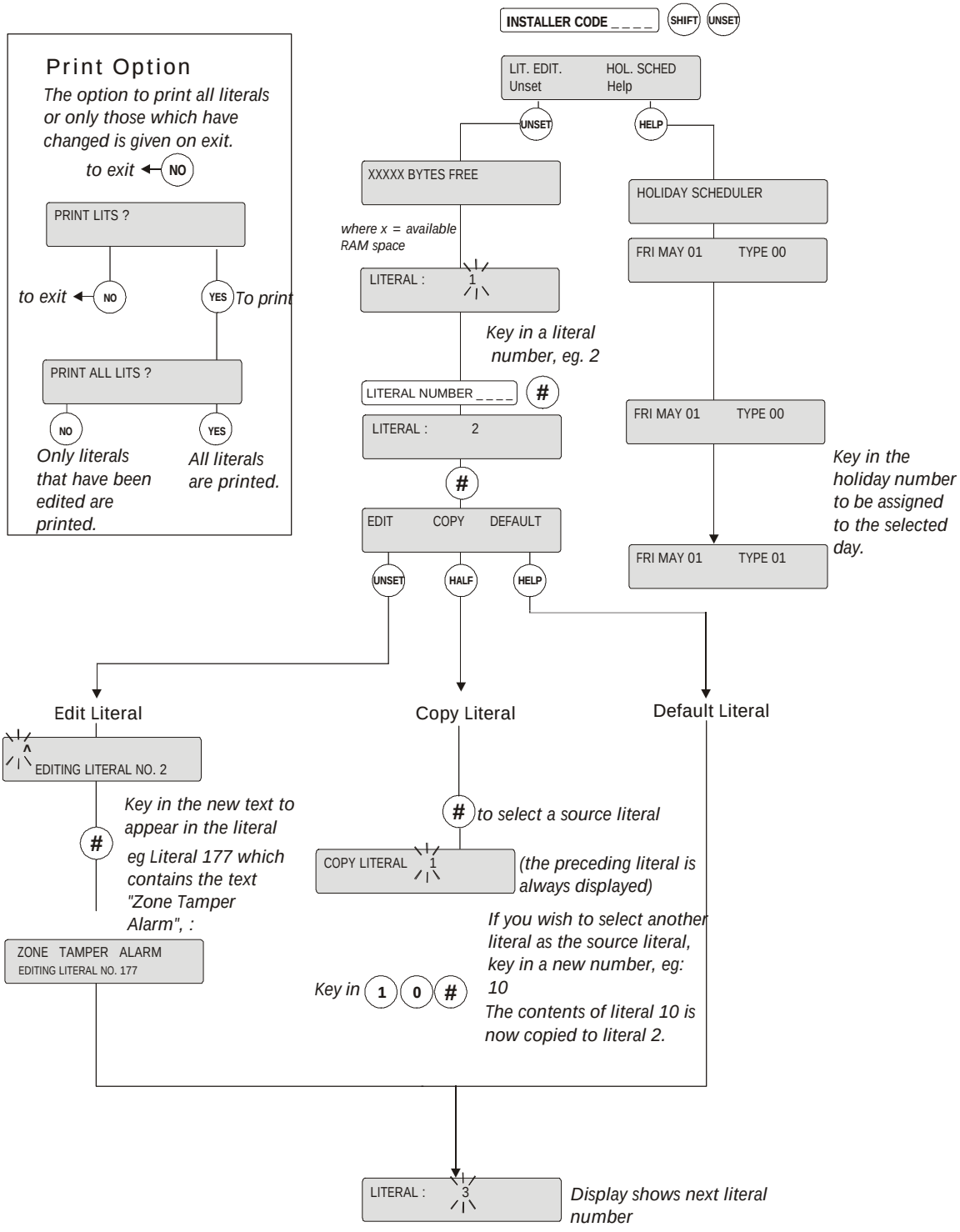


Additional Information

This option will advance the system clock to five seconds before the next pre-set time command. This is useful when testing or demonstrating the operation of such time commands. The option is available to all users with the "Date/Time Adjust" option.

INSTALLER CODE _ _ _ _ SHIFT HALF

Function: This menu allows you to change system literals and schedule system holidays for alarm operation.



Additional Information

Literal Edit

WARNING: This function is for advanced users only and any modifications to literals may compromise the operation of the system.

Submenus are:

- **Edit** Allows entry / deletion of characters.
- **Copy** Copies strings and thus avoids repetitive typing.
- **Default** Returns literals to original state, i.e. after a Cold Start.

Edit

This function allows the changing of the literal selected. The content of the literal is displayed. If the literal is empty of text the display will be blank.

Copy

This function will copy the contents of one literal (source) into another (target). The contents of the target literal will be overwritten. The literal that is displayed **before** selecting the COPY function is the target literal.

Default

This function returns a literal to its factory default settings.

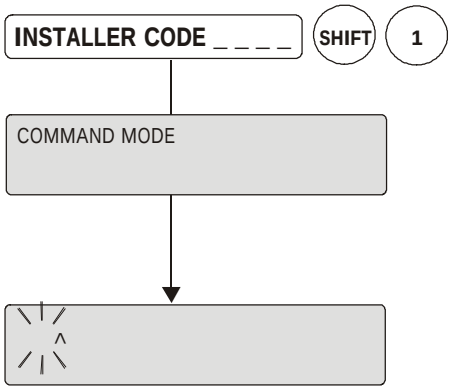
Holiday Scheduler

Holiday types are configured within the system literal file and are identified by a 2-digit number.

To assign, use the UNSET/PART keys to select the relevant day, and the HALF key to select the correct month. Key in the type number and press #.

The holiday is now set.

Function: This menu provides you with direct access to the power of the command string interpreter.



Enter command to execute.

Display returns to Date & Time.

Additional Information

WARNING: This function is for advanced users only and any modifications to literals may compromise the operation of the system.

When a command string is entered, the 3GS will execute it immediately. Should an error occur during the execution, a "SYNTAX ERROR" message is displayed and the command string aborted.

Any command string up to the maximum length of 127 characters may be entered. A blank display is presented each time, but the most recently entered string is stored in literal 498. The most commonly used and simple commands are for direct control of the system outputs.

For example:

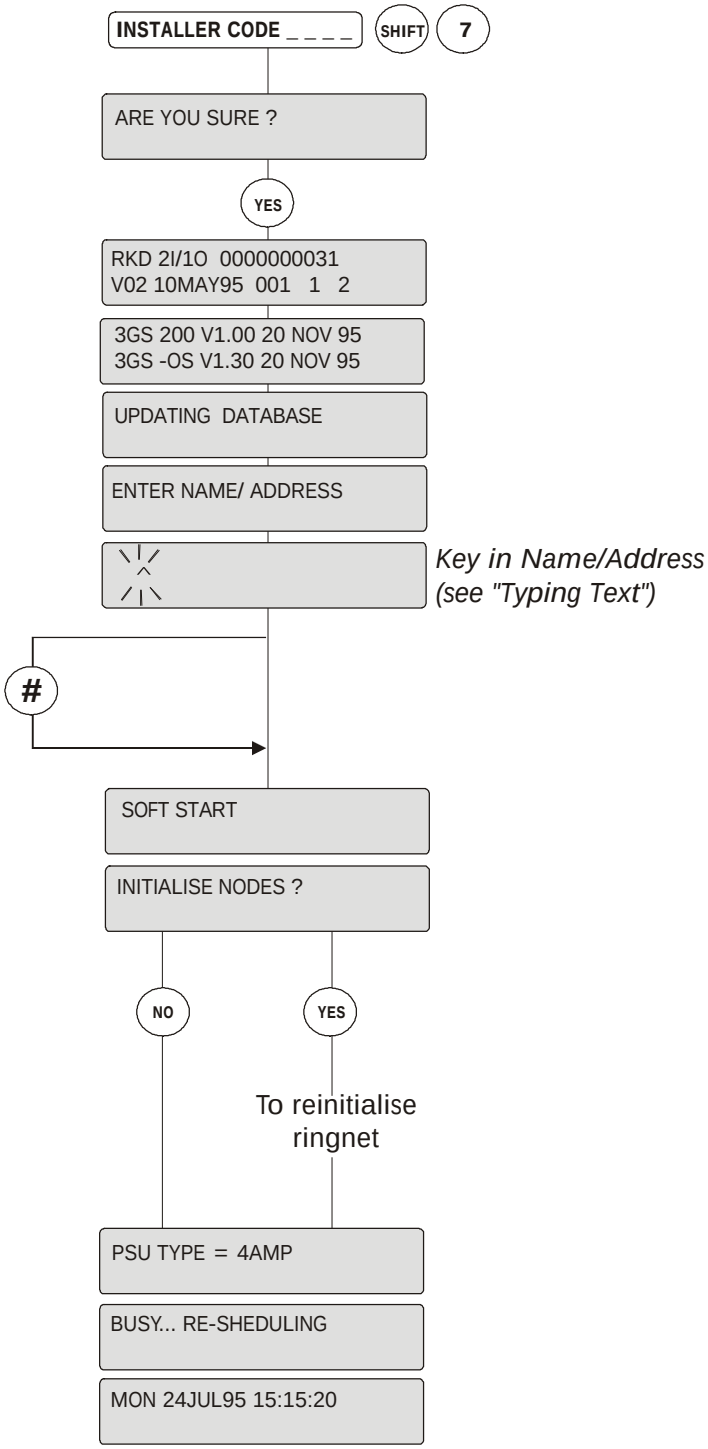
S2 Will set output 2, both the on-board relay and any other node outputs assigned as output 2.

R2 Resets the same output.

B1841 Will generate an unused RKD sound pattern.

B0 Will turn off the RKD buzzer.

Function: This menu allows you to reset the 3GS system.

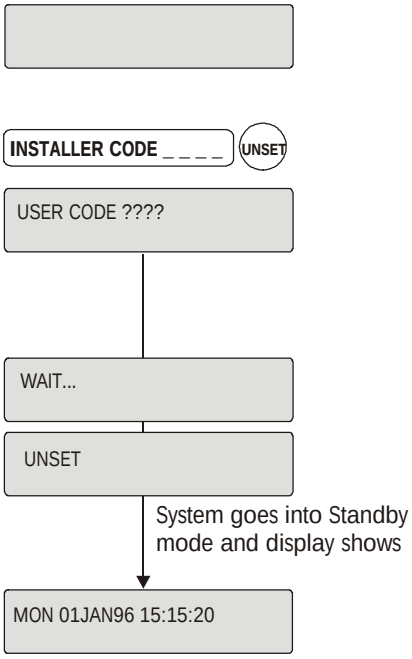


Additional Information

A Soft Start is a system requested reset which does not remove any programmed data. When selected, the keypad buzzer sounds and the display prompts “ARE YOU SURE?”. Pressing NO returns the system to stand-by mode. A soft start alert message is generated and this must be accepted in the normal fashion **[*See page 8-81: Accept All Alerts*]**.

Function: This menu allows you to disarm the system and put the 3GS into Unset mode (i.e. normal daytime operation). When selected, all system alarm outputs are reset. This option is only available to the installer in Unset mode. This means that the installer cannot unset/disarm the system but can use the unset function to reset system outputs.

Enter the premises via the correct entry route. The entry buzzer will sound.



Additional Information

Unset/Disarm Mode

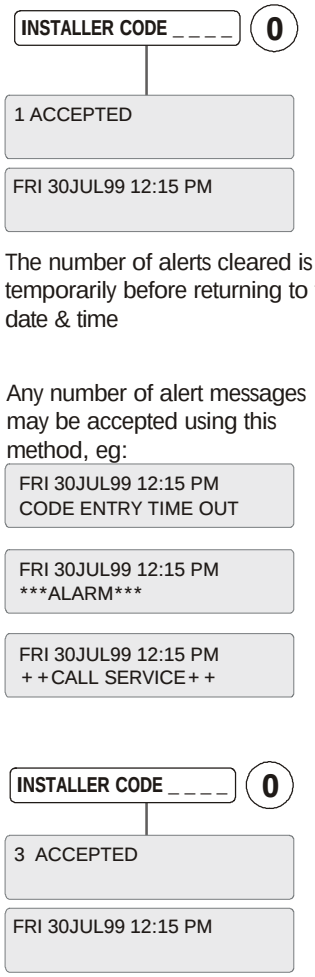
When in Unset/Disarm mode, the display alternates showing the date & time along with any system warnings or alert messages. An open zone will have its description displayed, however the zone state “open” is not indicated.

Zones which are in a TAMPER or DISCON (disconnected) condition will cause both the zone description and zone state to appear on the display. An alert message is generated, buzzer sounds, and an alarm is recorded in the system log. Pressing the ENTER key in this mode causes the display to skip quickly through the various messages.

Unsetting/disarming the system also starts a battery test and will cause any battery problems on the system to be reported.

Note *The installer code (default = 1010) is only valid when the system is in unset/disarm mode.*

Function: This menu allows you to clear all alert messages from the display.



Additional Information

Alert messages are flashing messages displayed to alert the user that a particular condition exists/existed on the system. Alert messages must be accepted, as shown in diagram above. This will remove the message and silence the buzzer. When the alert accept option is selected, all alert messages which are currently displayed are accepted (removed).

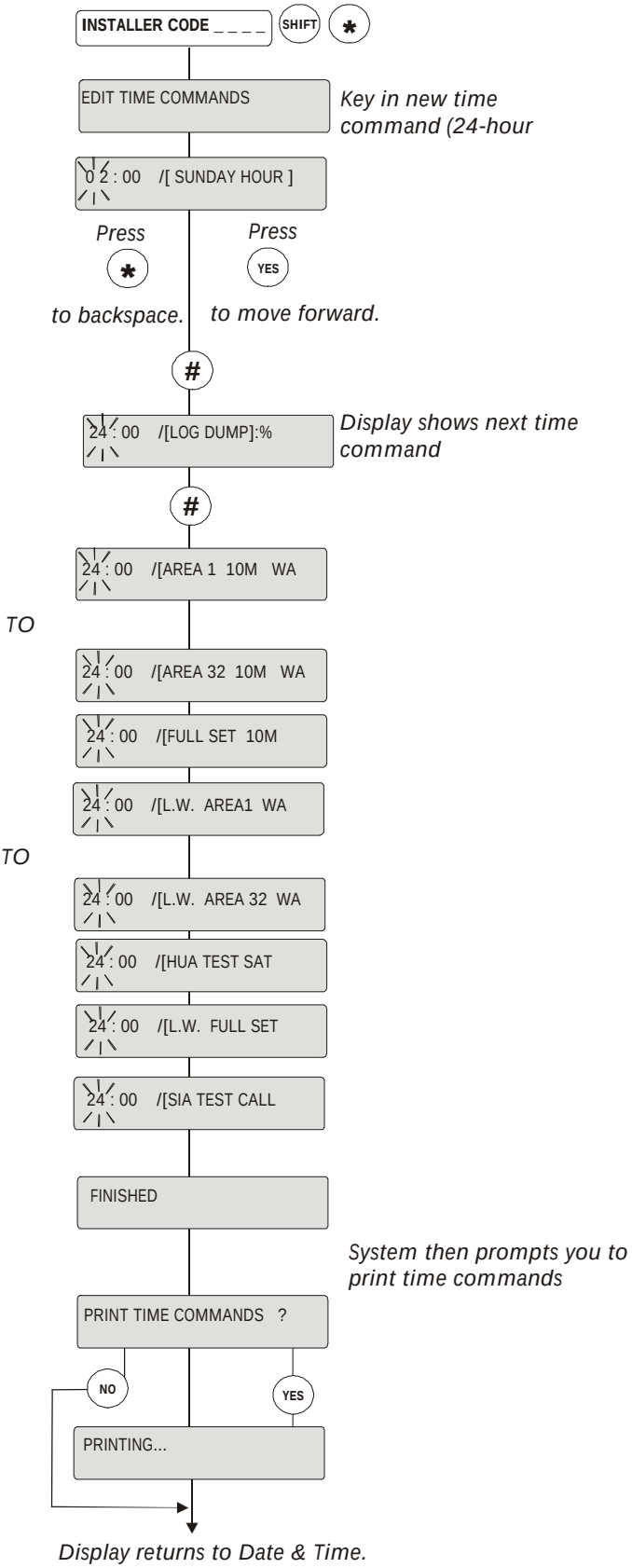
If the condition that caused the alert message still exists, a steady warning message will remain on the display until the condition indicated no longer exists.

Entry to the ALERT ACCEPT option is not logged but acceptance of any alert message is logged along with the identity of the user.

menu EDIT TIME COMMANDS

INSTALLER CODE _ _ _ _ SHIFT *

Function: This menu allows you to edit the execution times of automatic time commands.



Additional Information

An automatic time command is a programmed command string which instructs the 3GS to execute a function at a pre-set time. For example, the system could be instructed to automatically FULL set at 18:00. Modification of these commands is normally performed using the “Literal Edit” function and should only be undertaken by experienced installers. This mode is a simplified “time command edit” function which allows the user to modify the TIME at which the action will occur without allowing alteration of the command. The new time must be valid (24-hour format) or the procedure will not continue. After adjustment is made the ENTER key should be pressed to program the new time into the system.

Movement forward and backward through the time strings is provided by the UNSET and PART keys.

SUNDAY HOUR

Checks for Hour change on Sundays.

LOG DUMP

Sets dial-out variable for system to dial a remote PC/ Printer.

AREA 1 10M WARN to AREA 32 10M WARN

Automatic arming commands for Areas 1 to 32.

These commands (one for each block) start a 10-minute warning time (to inform people that they must leave the building) after which time the relevant area will arm. Half way through the 10min warning time the keypad buzzer pattern will change to indicate 5 minutes left. At the end of this time the area will set/arm automatically.

The standard Automatic Set time command can be cancelled by unsetting/disarming the area within this 10 minute warning time.

BATTERY TEST

This command sets a time (1 per day) at which an automatic battery test will be carried out.

FULL SET 10M WARN

Automatic arming command for the full system. Works in the same way as the Area 10-minute Warning but in this case the full system will arm.

Late working time commands

These commands allow for late working on the premises. They will arm the system/area if the first arming time command is cancelled. These are:

L.W. AREA1 WARN to L.W. AREA32 WARN

L.W. FULL SET WARN

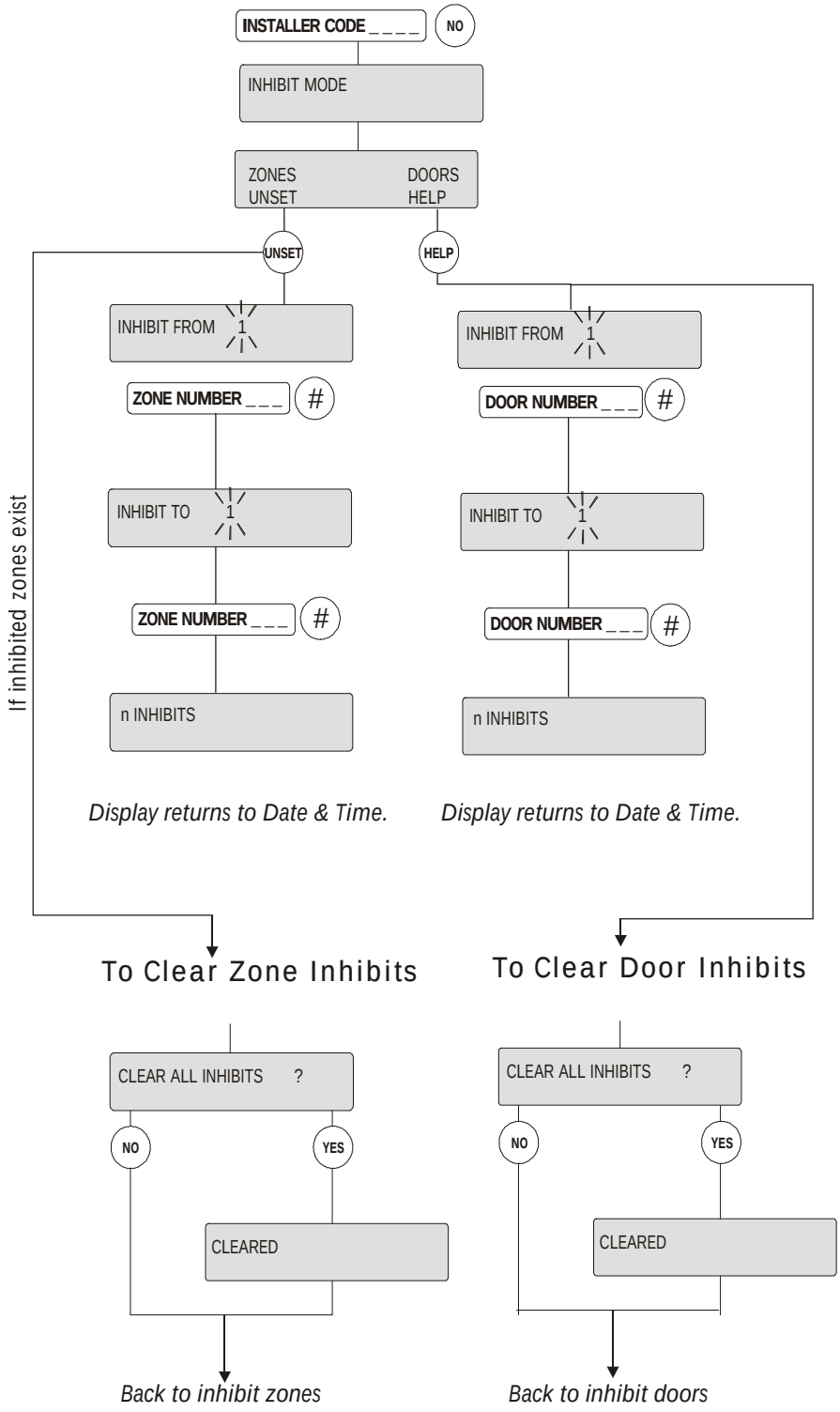
For example AREA1 10M WARN may be set/armed to 7pm and the L.W. AREA1 WARN set/armed to 9pm. Normally the first time command would arm the area 1 at 7pm. However, if the user cancels the first time command so that he/she may work late then the first time command is ignored and the system will be armed by the second time command at 9pm.

Late working time commands should only be used for areas that have to be set/armed by a certain time.

SIA TEST CALL

Sets a time at which the DM1200 will send SIA messages to the Central Station receiver to ensure line integrity.

Function: This menu allows you to temporarily isolate troublesome zones/doors, which may be preventing the system from setting. It is important to be aware that zones/doors which are inhibited will only report a Tamper or Discon state i.e. Open and Closed states are ignored.



Additional Information

Inhibiting

Inhibiting a zone/door prevents openings and closings having an effect on the system. If zones/doors have been inhibited, on selection of FULL set mode, a message will indicate how many are inhibited.

Selection of this option is logged by the system and an asterisk appears beside the log entry to indicate the zone/door has been inhibited manually (zone/door may also be inhibited via literal commands). The identity of the user to select the option is also logged.

The INHIBIT function can be re-entered any number of times to inhibit more zones/doors, existing inhibited zones/doors will not be affected.

Clear Inhibits

To clear inhibits, re-enter Inhibit Mode using the installer code followed by the NO key. You are prompted to select zones/doors. Once selected the message “CLEAR ALL INHIBITS?” will appear in the display. Press YES to clear the inhibited zones/doors. Press NO to inhibit more zones/doors. Inhibits are automatically removed after performing an unset/disarm from FULL SET mode.

Note *Zones/doors can only be inhibited when the Inhibit attribute has been set to YES.*

9 USER GUIDE

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3GS System

version 5

User Guide

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WARNING

While this system is an advanced design integrated security system, it does not offer guaranteed protection against burglary, fire or other emergency. Any alarm system, whether commercial or domestic, is subject to compromise or failure to warn for a variety of reasons.

Therefore, good installation practices, thorough testing and regular maintenance by the installing company and frequent testing by the user are essential to ensure continuous satisfactory operation of the system. It is recommended that the installation company offer a maintenance program and instruct the user with the correct procedure for use and testing of the system.

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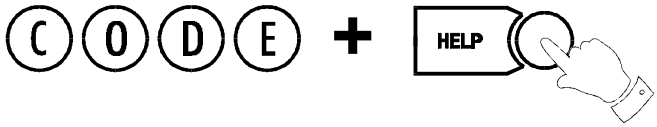
INTRODUCTION

This manual is intended as a quick reference User Guide for the 3GS System.

User Menu

The User Menu, by which the user programs the system, is accessed via the keypad by keying in your User Code plus the option key Help:



This will allow you to choose one of the menu options available.

Display

The 3GS system has a two line by 24 character LCD display e.g.

When you are navigating through the Help menu:

- The first line shows the option
- The second line shows how to directly select the option without using the Help function.

Alert Messages

When in normal operation, the system will display the day, date and time on the first line of the display. The second line will flash any recent system events or information (such as a fault with one of the fuses or battery, or an alarm condition).

If the condition continues, e.g. Battery Problem, the message displays steadily instead of flashing. This message will continue to display until you remove the message. **[*See page 9-6: Accept All Alerts*].**

If the system is in Full Set/Full Arm mode **[*see page 9-9: Full Set*]**, the message will display steadily and the buzzer will also sound.

Pressing the 

key will give information on the areas/zones affected.

These messages can be removed from the display (and the buzzer silenced) using the Alert Accept procedure.

Keypad Private Mode

The 3GS is designed to allow only one user at a time to operate the system.

If the display shows:

when you attempt to use the keypad, this means that a user is operating the system at another keypad. Wait until the system is free before attempting to use the keypad again.

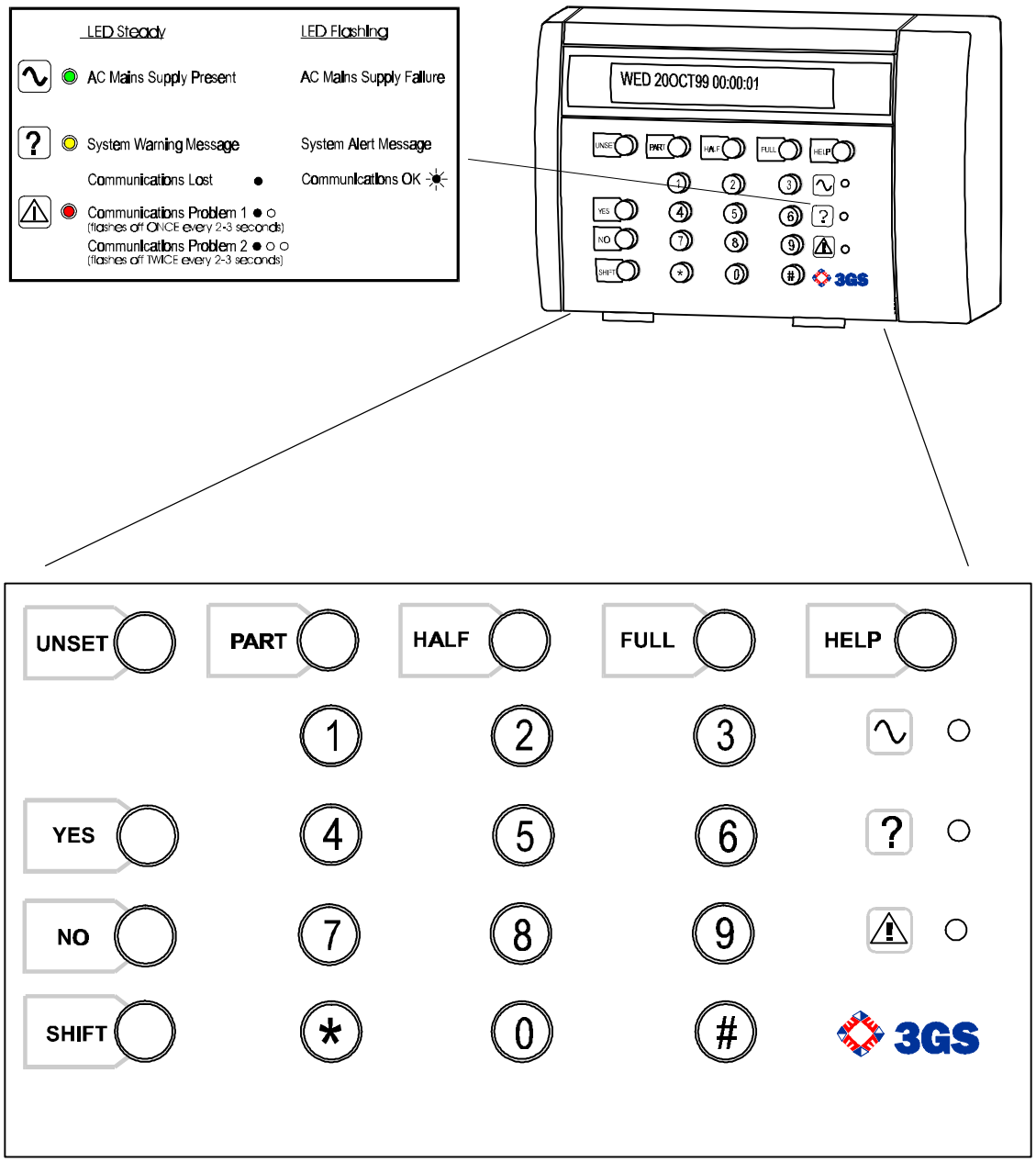
Year 2000

All 3GS systems are Year 2000-compliant.

Alarm Duress Code

3GS has an in-built Alarm Duress Code feature, which allow you to trigger a silent Duress alarm by simply keying in the first 3 digits of your code, and then the fourth digit plus 1. For example, if your code is 1234, then by keying in 1235 you will trigger a Duress alarm, which will not display on the panel and will not sound an alarm, but will send a trigger directly to your central security station.

3GS System Keypad/Display



MENU OPTIONS

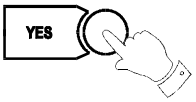
The system is programmed using the Help menu options:

In sequence, you can use these menus to:

- Disarm the system and reset all warning devices
- Remove system display messages and silence the buzzer
- Part set the system and Unset/Disarm an area
- Half set the system and Set/Arm an area
- Full set the system
- Reset the system following an alarm
- Set the system date and time
- Change existing user codes
- Set up new users
- Set up a new area system
- View system log
- Adjust the system for summer / winter hour change (daylight saving time)
- Isolate a troublesome zone that is, for example, preventing the system from arming

All of these options are accessed by entering your CODE followed by the HELP key.

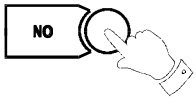
Your installer will have configured your own unique CODE, which will allow you to display and scroll through the options available to you.

An option is selected by pressing the **YES** key 

.

Use the **UNSET** key to move to the next option 

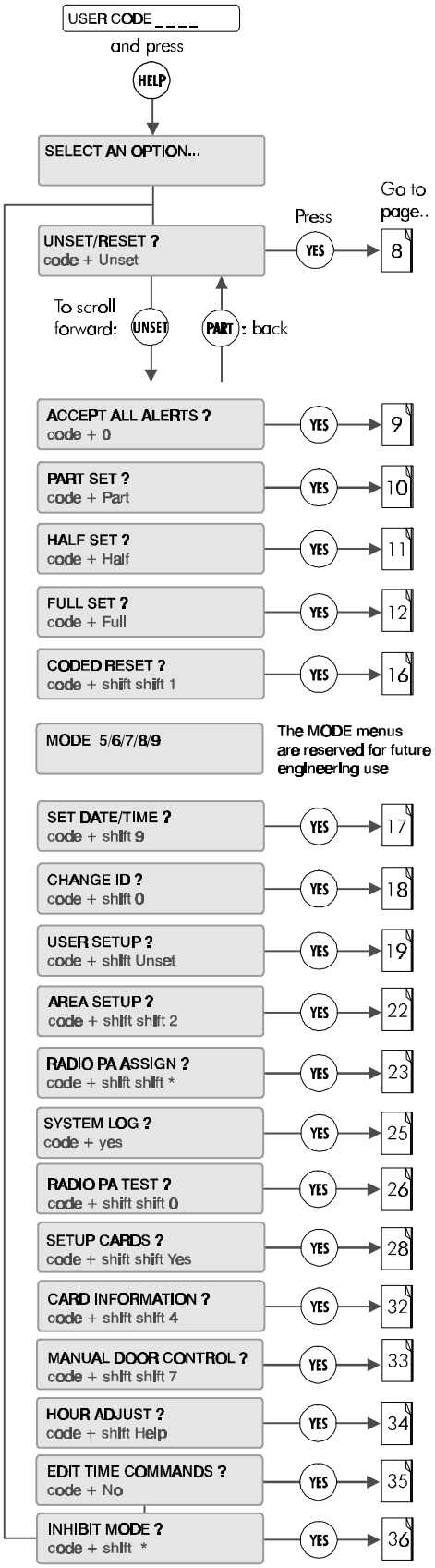
Use the **PART** key to move back 

To exit without selecting an option, use the **NO** key 

Note *Only options which have been assigned to a user are displayed. The Master user will have all options.*

Once the help routine is entered a selection must be made within 90 seconds, otherwise the system will exit from this menu.

Note *The hash button* (#) *acts as an ENTER key for the keypad.*



NAVIGATING THE HELP MENU

To navigate the Help menu options use the UNSET, PART, YES, NO, (#) keys.

Their functions are explained below.

Help Menu

The first option in the **Help Menu** is shown:

The following keys are used for **help menu** navigation and selection:

(UNSET) To move **forward** through menu options.

(PART) To move **back** through menu options.

(YES) To **select** an option.

(NO) To **exit** the menu.

Moving through Options

After changing a number, press (#) to move forward.

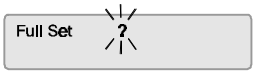
When viewing options that do not require input:

(UNSET) To move **forward**.

(PART) To move **back**.

Answering a question

On the following display, the flashing **"?"** implies that the system is waiting for an answer:

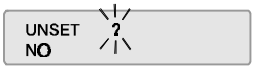


Press (YES) or (NO) as required.

Pressing any key other than (YES) will be interpreted as NO.

Yes / No Options

If an option is presented with YES or NO displayed underneath, select as follows:



(YES) To select **Yes**.

(NO) To select **No**.

The system will automatically move to the next option.

When complete press (#) to accept **all** data input.

Entering Numbers

There are two methods of entering numbers. Both methods can be used as is shown for the "Set Minute" example below. A flashing digit will prompt entry:

Key in digits directly

The more direct method is to key in the digits as shown,

E.g. : (2) (0) followed by (#)

If you make a mistake (before pressing #) :

Correction can be carried out using : (*) to move back and (YES) to move forward.

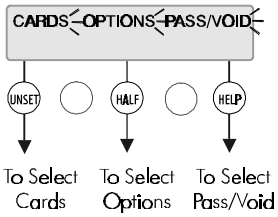
Then re-enter the correct digits followed by: (#)

Three way display options

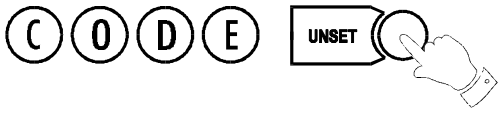
Certain displays will present three flashing sub-options. Sub-option selection is determined by position on the display:

Option **left** = UNSET key on the extreme left.
Option **right** = HELP key on the extreme right.
Option **centre** = HALF key in the centre.

The options shown below display when you select 'Setup Cards ?':



UNSET/RESET



Unsetting/Disarming the System

Select the **Unset/Reset** option to disarm the system when you enter the premises, or to cancel alarms, bells etc. after an alarm activation.

This will put the 3GS into Unset/Disarm mode (i.e. normal daytime operation). The system alarm outputs (buzzers etc.) which had been activated are reset to normal.

Enter the premises via the correct entry route.
The entry buzzer will sound.

Display will be blank :

Key in

USER CODE _ _ _ _ (UNSET)

USER CODE ????

WAIT...

UNSET

System goes into Standby mode and display shows:

FRI 01OCT99 15:15:20

After an Alarm Activation

After an alarm activation proceed directly to the control panel enter the code and press Unset.

The display will show:

WAIT ...

Followed by:

UNSET

followed by the cause of the alarm, i.e. which zone has been opened.

Example:

Alarm alert message:

Wed 30 JUL 98 09:00:23
********ALARM********

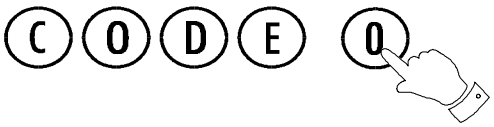
Zone alert message:

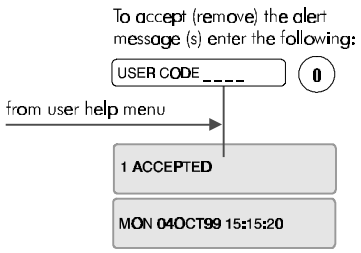
Wed 30 JUL 98 09:00:23
OFFICE DOOR

These messages will be flashing.

To clear flashing (Alert) messages follow "Accept All Alerts"

ACCEPT ALL ALERTS



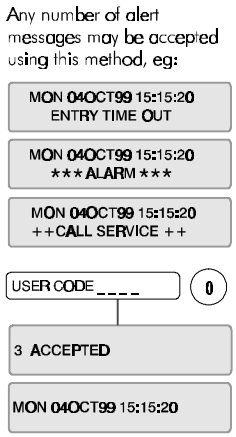


Alert messages are **flashing** messages displayed to alert the user that a particular condition exists/existed on the system.

Accepting the alert will remove the message and silence the buzzer. When the Alert accept option is selected, all alert messages which are currently displayed are accepted (removed).

If the condition that caused the alert message still exists, a steady warning message will remain on the display until the condition indicated no longer exists.

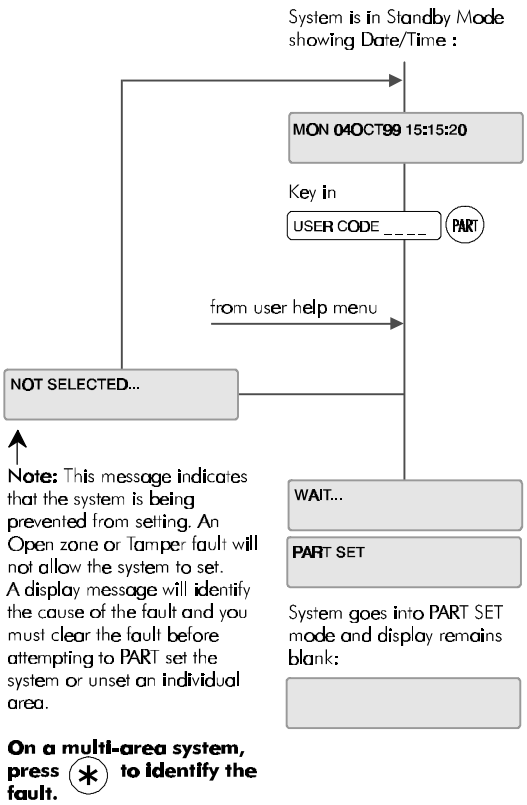
ALERT ACCEPT is logged along with the identity of the user.



Some examples of Alert Messages

MAINS POWER	Power Supply Unit mains voltage (220Vac) removed.
PSU FUSE BLOWN	Power Supply Unit "controller board" fuse blown.
BATTERY PROBLEM	Back up battery supply removed / interrupted.
ID SECURITY ALERT	Invalid ID code entered (3 attempts).
TIME ADVANCE	Time advance option selected.
ZONE TAMPER ALARM	Zone tamper circuit activated.
*** PANIC ALARM ***	Panic Alarm activated.
***** ALARM *****	Normal Alarm activation.
SOAK ZONE TRIPPED	Soak Zone Activation.
*** FIRE ! ***	Fire Zone Activation.
+++ CALL SERVICE +++	"Engineer Reset required. System can not be FULL set until reset variable is set to 1.
*** DURESS ALARM ***	Duress option selected.
FIRE DOOR OPENED	24-Zone "Fire X" opened.
ENTRY TIME-OUT	System "Unset" was not selected before entry time expired.
CALL NOT ANSWERED	DM1200 digital communicator dialled programmed number - no reply.
TEL. DATA ERROR	Communications transmission unsuccessful.
CANCEL HOUR CHANGE	Hour change option selected and then re-selected to cancel.
STACK ERROR	System software error.
LOG CORRUPTED !	System log corrupted.
RAM FILE CORRUPTED !	RAM data corrupted.
BACK TAMPER	Control Panel back tamper switch open.
LID TAMPER	Node lid tamper switch open.
NODE LOST	No communications on node comm. ports 1 (IN) or 2 (OUT).
COMM PORT 1 OFF	No communications on node comm. port 1 (IN).
COMM PORT 2 OFF	No communications on node comm. port 2 (OUT).
NODE RESET	Node PROM has been reset - Inputs / Outputs must be reprogrammed.
IR ACTIVE	Communications between node infra-red port and Hand-Held Terminal.
MEMORY ERROR	Node PROM data corruption.
POWER LOW	Node supply voltage below 9.9vdc.
FUSE BLOWN	Node fuse blown.
AUX OVERCURRENT	The auxiliary current drawn from the node has exceeded 2Amp limit.
BHO TAMPER	Bell Hold Off tamper activated.
PSU FAIL	PSU failure -return to supplier
PSU OVERCURRENT	Current drawn from PSU hasexceeded the programmed limit
SERIAL PORT FUSE BLOWN	Controller serial port fuse blown.
NODES x --> x DUPLICATE SER#	Node serial number duplicated - return node to supplier.
CABLE FAULT	Cable fault on ringnet.

PART SET/UNSET INDIVIDUAL AREA



Your system will be set up as either:

- a standard alarm system with one alarm area, or
- a multi-area system, with up to 32 separate alarm areas within one.

A standard alarm system is set/armed using the **Part**, **Half**, and **Full** procedures.

The **Part** and **Half** options are used to unset/disarm and set/arm individual areas within the multi-area system.

Part Set

With a standard alarm system, you can isolate particular areas of the premises and set/arm these areas independently of the rest of the system.

Part Set allows you to protect the perimeter of a premises while allowing free movement through the exit and access area (e.g. from door, hall).

This would typically apply to the day or evening operation of the system when people are on the premises and using the common exit. There is free access to the areas being used while the rest of the building is armed.

There are no entry or exit times associated with this mode and protection is applied instantly.

The display remains blank and will only change to show alert and warning messages.

If selected while entering the building while the entry timer is running, the entry mode is cancelled and the buzzer is silenced.

- If selected by mistake refer to “Unset/Reset”.
- If unable to set/arm refer to “Unable to Set”.

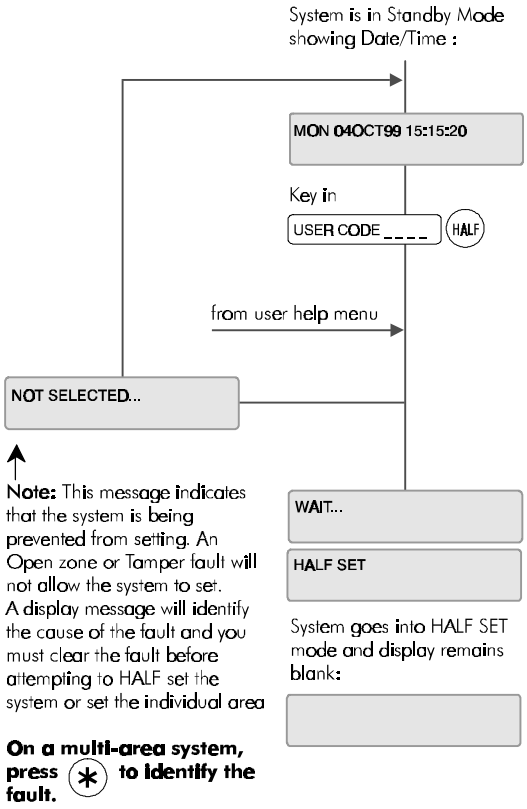
HALF SET/SET INDIVIDUAL AREA

HALF Set is used to provide full perimeter protection (including exits) when people are on the premises and all exits are locked, i.e. late working operation.

This mode immediately arms the perimeter and the Exit zones, i.e. no exit timer applies.

If selected when entering the building, the entry mode is cancelled and the buzzer is silenced.

- If selected by mistake refer to “Unset/Reset”.
- If unable to set/arm refer to “Unable to Set”.



FULL SET

This option will set/arm the entire system. Ensure that all zones (doors, windows, etc.) which are not on the exit/entry route are closed.

Exit Sequence

Enter your user code and press FULL. Leave via the exit route. The buzzer will stop at the end of the exit time and the system will fully set/arm.

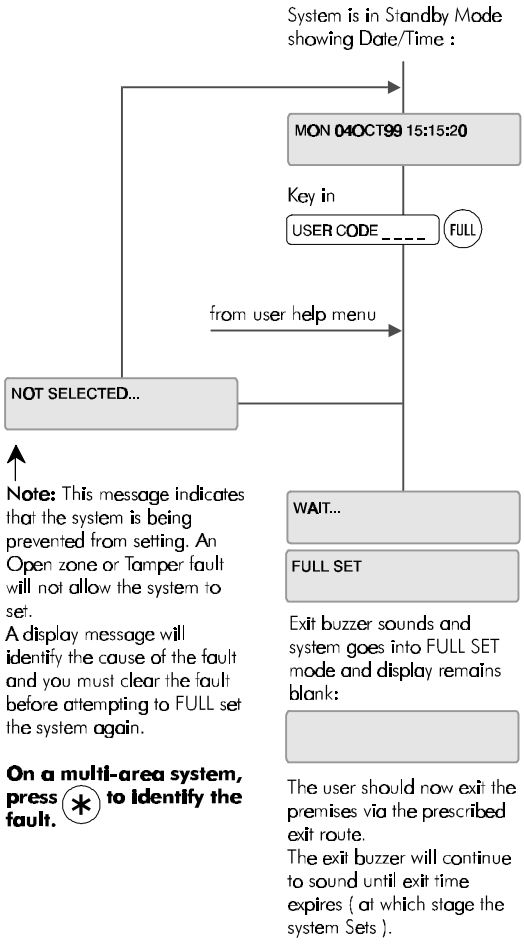
The buzzer will sound during the exit routine. At the end of the exit time, if all zones are closed, the buzzer will stop. The system will then become Fully Set/Armed if:

1 the exit time expires, or

2 the 'exit terminator' button is pressed.

If a zone is still open, the system will wait indefinitely for a clear condition, then set/arm when the zone is closed.

During the exit period the buzzer will sound with one of two possible tones, a long beep indicates that all zones are closed and that the system will set/arm correctly when the exit time expires; a short beep indicates that one or more zones are open and the system will not SET/ARM until all these zones have closed.



Multi-Area system configuration

In a multi-area system, Full Set has the effect of setting/arming **all** areas plus the Common Area.

Alarm on exit

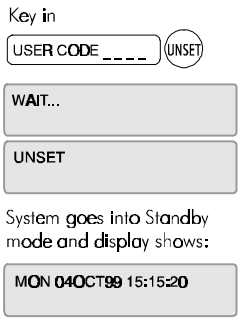
If the user strays from the exit route a local alarm will be generated, tripping internal/external bells.

Action to take:

- Return to control panel;
- Select 'UNSET' **[*See page 9-5: After An Alarm Activation*]**.
- Remove alert messages **[*See page 9-6: Accept All Alerts*]**.
- Reselect "Full Set" and exit the premises.

To abort FULL set

To abort a Full set during the exit routine return to the keypad and proceed as follows:



Entry Sequence

When you enter the building, the system will be Fully Set/ Armed. The entry buzzer sounds and the entry timer begins. This gives you a specific number of seconds in which to go to the keypad and Unset/Disarm the system. Otherwise a full alarm is generated along with the alert message "CODE ENTRY TIMEOUT". In this case repeat the Unset/Disarm procedure to silence the alarm.

UNABLE TO SET

If attempts to Part, Half, Area or Full Set the system fail, the system buzzer briefly sounds and the display briefly shows:

NOT SELECTED

This is normally due to an zone or door being open away from the exit route.

Note *The system will display which zones are open. In an multi-area system, the display does not indicate which zones are open until you press the* (*) *key.*

For example:

WED 30OCT99 17:45:00 OFFICE DOOR

Action to take:

- Go to the Area concerned and close the zone(s).
- Return to the keypad and reselect the required 'set/arm' mode.
- Leave via the exit route.

The system buzzer will stop when:

1. The Exit time expires or

2 When the 'exit terminator' button is pressed (if fitted).

SETTING AN INDIVIDUAL AREA

In an Multi-Area system, the whole premises may be divided into up to 32 separate alarm areas, which can be set/armed and unset/disarmed independently of each other.

Note *Please ensure that the Master User has given you the Part/Area Unset and Half/Area Set options, and that the areas have been assigned to you.* **[*See page 9-6: Accept All Alerts*]**.

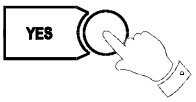
Setting an area

The installer or Master User will tell you which areas have been assigned to you, and you will be able to set/arm or unset/disarm these areas only.

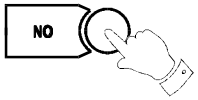
To set/arm an area, key in your Code plus HALF.

The display will prompt you to set/arm the area you are now leaving

SET AREA 1 ?
PRODUCTION AREA

Press 

or # to set/arm this area.

Press 

to abort the procedure.

The display will show

WAIT ...

the exit buzzer begins and you can now leave the area.

Multi-Area Setting

Please consult your installer on setting more than one area.

UNSETTING AN INDIVIDUAL AREA

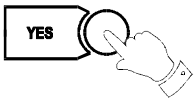
Unsetting/Disarming an area

Unsetting/disarming areas is similar to setting/arming areas, except that the PART key is used. You will be able to unset/disarm only those areas that have been assigned to you.

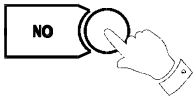
Key in your Code plus PART.

The display will give you the option to unset/disarm the area:

UNSET AREA 1 ?
PRODUCTION AREA

To unset/disarm area 1, press 

or #

Press 

to abort the procedure.

The display will show

WAIT ...

followed by

AREA UNSET

Note *Please ensure that the Master User has given you the Part/Area Unset and Half/Area Set options, and that the areas have been assigned to you.* **[*See page 9-16 and 9-19: User Setup and Area Setup*]**.

Areas and Full Set

The Full Set option operates in an multi-area system in the same way as in a standard alarm system. Keying in your code plus FULL will arm all areas and begin the exit timer.

Note *To Full Set the system (all areas) you must be assigned the option by the Master User.*

Common Area

The Multi-Area system consists of up to 32 Alarm areas plus a Common Area (usually the entrance/exit lobby or front door).

The Common Area sets/arms and unsets/disarms automatically:

- When all the other areas are set/armed, the Common Area automatically sets/arms.
- When one area is unset/disarmed, the Common Area automatically unsets/disarms.

CODED RESET

Under normal conditions, the system can only be re-armed (after an alarm activation) following a service/installation company visit.

When an alarm has occurred the display will show a CALL SERVICE message and the user will not be able to re-arm the system.

When enabled, the Coded Reset option allows you to re-arm the system, avoiding the need to call an installer to the site.

When you have acknowledged an alarm, the keypad will continue to display the message:

```
+++ CALL SERVICE +++
```

If you attempt to re-arm the system, the keypad will beep, and then briefly display the message:

```
NOT SELECTED
```

You should now contact the Security Control Station for a release code. If the Security Control Station is unable to give you a release code, contact your installer.

User Reset Procedure

Select Coded Reset.

```
CODED RESET
```

The display will show a random 4-digit number.

Contact the Control Security Station with this random number.

```
RANDOM CODE IS 2456
```

The Central Station operator then converts this number to a 4-digit return code acceptable to the system.

When you receive your return code from the Central Station operator, return to the keypad, and press the (#) key.

The display will prompt you to enter the return code:

```
ENTER CODE    0
RANDOM CODE IS 2456
```

Key it in at the prompt. If the code is incorrect, the display will show:

```
+++ INVALID ENTRY +++
```

When you have keyed in the correct code, the display will show:

```
CODE ACCEPTED
```

You can now re-arm the system by selecting Full Set.

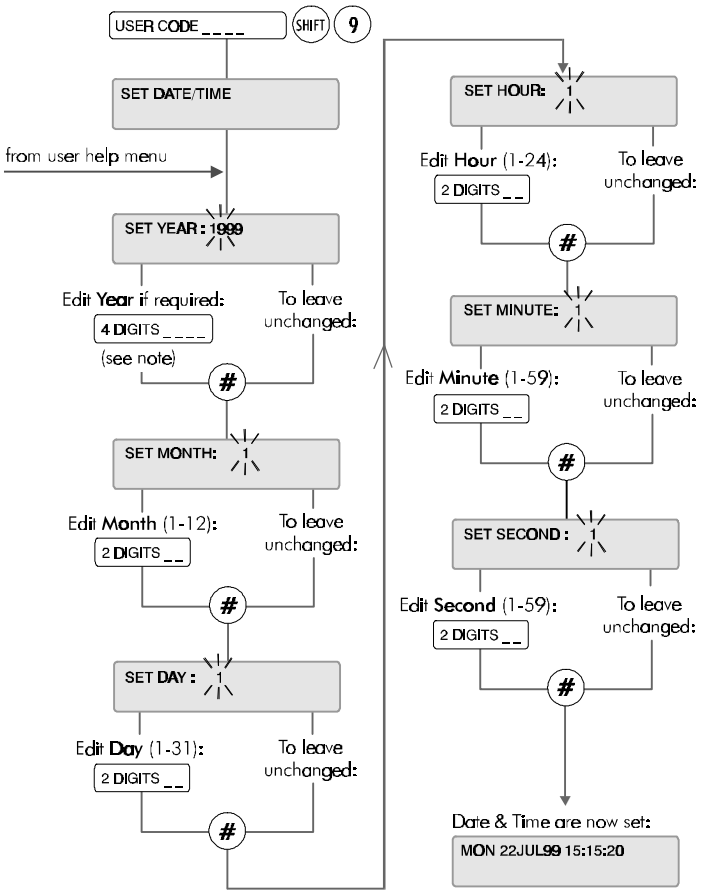
Note *All users who have the FULL SET option will automatically be assigned the Coded Reset option.* **[*See page 9-16: User Setup*]**.

SET DATE & TIME

C O D E SHIFT 9

The time is set in 24-hour clock notation.

To adjust the time for the Summer/Winter hour change (Daylight Saving Time), **[*See page 9-31: Hour Adjust Option*]**.



Note: There are two methods of editing the display digits:

1 **Key in digits**
To backspace : * To move forward : YES

2 **Scroll through digits**
To increment digits : UNSET To decrement digits: PART

CHANGE YOUR OWN ID

C O D E SHIFT 0

This option allows the user to change the ID code normally assigned to them by the Master User.

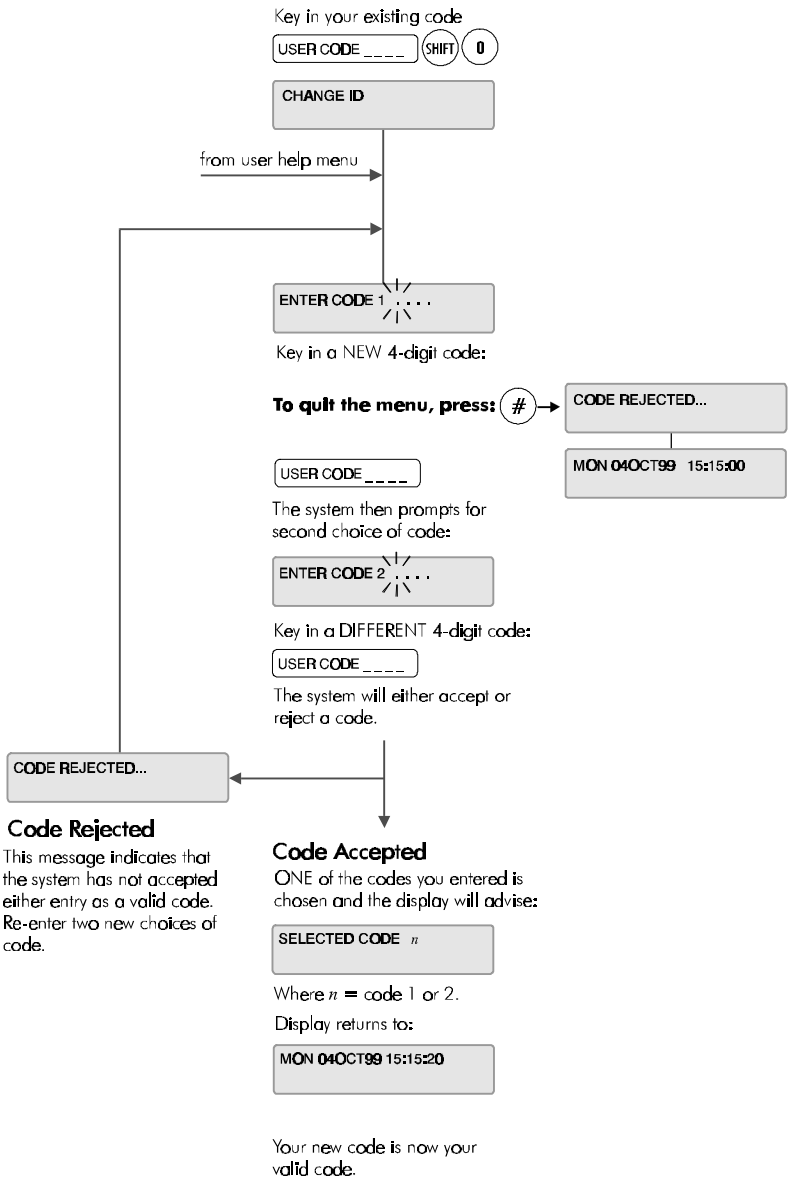
When the option is selected, the user is prompted to enter a new 4-digit code. To avoid duplicate codes, a second choice of code is requested.

Once both codes have been entered the system will either reject or accept the user's choice. If rejected the user must repeat the procedure and enter two new codes. If accepted, the system will assign one of them (chosen at random) and will indicate which code is to be used.

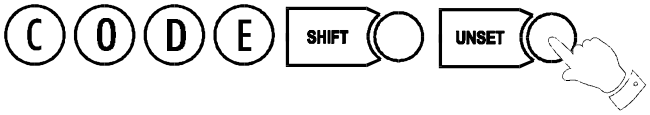
This option is cancelled after use so **each user has only one opportunity** to change their own code. The Master user may, of course, grant the option again if required. Once chosen the code is completely private.

Remember the two codes you have entered! The one chosen by the system as your new code will be indicated by either '1' or '2'.

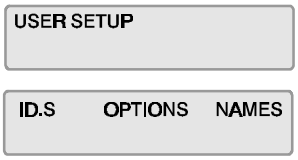
Once changed, test your code to ensure that the system has accepted it. In not, consult your Master User or installer.



USER SETUP



This menu is used to set up new users on the system, entering their names and assigning ID codes and options.

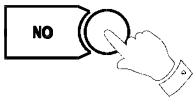


Changing User ID Codes

This option allows the Master User (user 2) to change individual ID codes for all other system users (3 - 126).

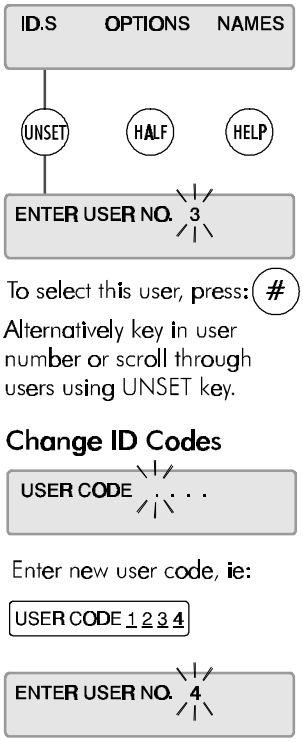
Note *User ID codes must be 4 digits in length.*

The new ID code is accepted and functioning as soon as you enter it.

Press 

at the user number prompt to exit the ID codes menu when finished.

You should now give the user the required options.



Changing User Options:

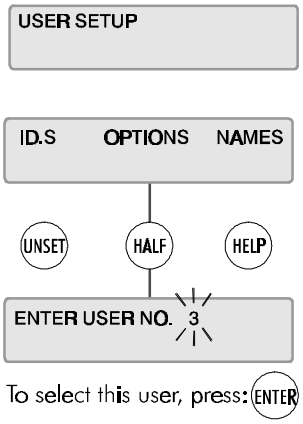
The Master User can assign the following menu options to all users. Some options are linked to other functions, so that assigning an option to a user may automatically give the user other options as well.

- Unset/Reset (also Accept All Alerts)
- Part Set / Area Unset/Disarm
- Half Set / Area Set/Arm
- Full Set (also Coded Reset)
- Set Date/Time
- Change ID
- User Setup (also Setup Areas and Radio PA Assign)
- System Log (also Test Radio PA, Setup Cards, Card Information and Manual Door Control)
- Hour Adjust
- Edit Time Commands
- Inhibit Mode

Any user can be assigned some or all of these options. The Master User has all of these options by default.

Note *By default, User 1 is the installer and User 2 is the Master User.*

Note *The User Options menu also features Mode 5/6/7/8/9 options. These options are for installer use only and cannot be accessed.*

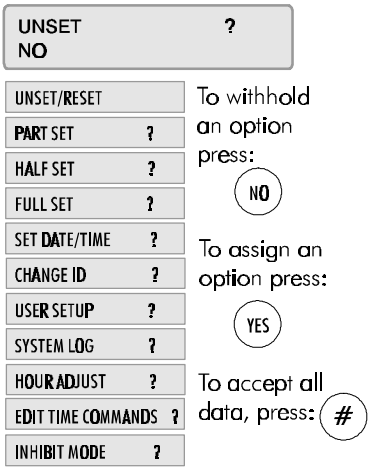


To select this user, press: ENTER

Alternatively key in user number or scroll through users using UNSET key.

Assign Options

Options that are available to a user may assigned as follows:



To withhold an option press: NO

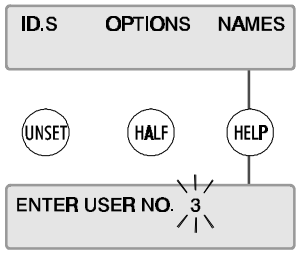
To assign an option press: YES

To accept all data, press: #

Changing User Names

This feature is used to enter individual user names into the system.

Text is entered via the keypad using the procedure described in *Typing Text*, but it is recommended that this be carried out by the installer.



To select this user, press: (#)

Alternatively key in user number or scroll through users using UNSET key.

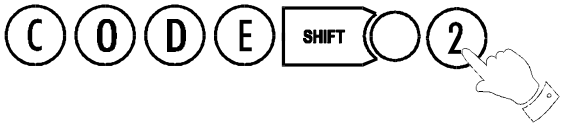
Assign Names

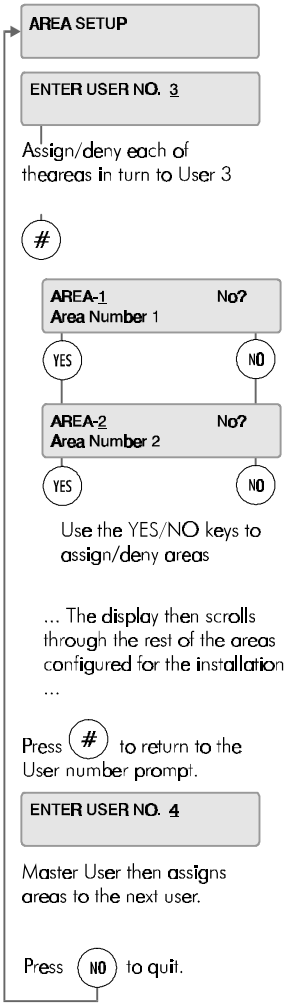
Each user can be assigned a user name as follows:

Key in a user name (see "Typing Text").

Then press: (#)

AREA SETUP





The Area Setup menu allows a Master User to assign areas to the system users (3 to 126).

Note*The option to set/arm or unset/disarm an area is configured by the Master User in the* User Setup *menu.*

The number of areas to be used in the system is configured by the installer, – the Master User assigns areas to users.

Note*User descriptions and PIN codes are set up in the* User Setup *menu.*

The system currently allows for up to 32 areas. The Master User enters the number of the user to whom the area is to be assigned, and then scrolls through each area in turn, assigning or denying that area to that user.

Note*To be able to set/arm or unset/disarm an area, the user must be given:*

the Part/Area Unset and Half/Area Set options,

and the Set and Unset option for that area,

using the User Setup menu.

RADIO PA ASSIGN

C O D E SHIFT SHIFT *

3GS allows for up to 126 3-button Radio Hold-Up handsets. This option is used to setup Radio PA (RPA) units for use on a 3GS system. Each RPA unit must be given a system ID number and a description (optional), and can be assigned up to five different functions, for example, SUSPICION, RAID etc.

Adding a new RPA to the system

When you key in your code plus SHIFT SHIFT *, the display will show:

RPAS	DESCS	OPTIONS
Unset	Half	Help

Press 

to enter the RPAs menu. The display will show:

RPA 1 not assigned

In this example we will add RPA 3 to the system, so use the 

key to scroll forward until the display

shows:

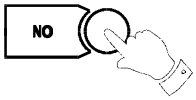
RPA 3 not assigned

Now press any button on the RPA 

The display will now show:

RPA 3 -> 0123456789

where the 10-digit number is the serial number encoded into the unit at the factory. This unit has now been entered into the system as RPA 3.

Press 

to return to the RPA menu.

Giving the RPA unit a Description

At the prompt

RPAS	DESCS	OPTIONS
Unset	Half	Help

press the 

key to enter the Descriptions menu.

The display will show

EDIT RPA DESCRIPTION

followed by:

ENTER RPA NUMBER 1
RPA 1

Key in the number of the unit to which you want to give a description (e.g. 3) and press the # key.

The display will show:

RPA 3 RPA 3

The first character will be flashing, and you can now enter a description.

When finished, press the # key, ensuring that the cursor is in the vertical position as described in Typing Text.

Setting the RPA Options

The RPA unit has no options assigned by default, and so must be set up for use with the Radio HUA system. The unit can be assigned five different functions:

- RAID
- DELAYED RAID
- RAID CANCEL
- SUSPICION
- PHOTO ENTRY

Each function will be explained by the installer and is activated by pressing a combination of the three buttons on the unit. The button combinations are also set up by the installer and will be explained by him.

To assign options to the RPA Unit, press HELP to enter the Options menu.

The display will show:

ENTER RPA NUMBER 1 RPA 1

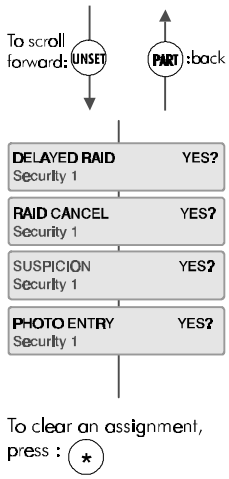
Enter the number of the RPA unit to which you want to assign options e.g. RPA 3, which now has the description 'Security 1'.

The display will show

RAID	Yes ?
SECURITY 1	

Assign the RAID option to this unit by pressing YES.

Use the NO key to deny the option and the UNSET key to move to the next option.



When finished assigning options, press the # key to return you to the main RPA Number prompt.

To return to the main menu, press NO

When you press NO, again, you will be prompted

PRINT RPA DATA ?

If you have a printer connected to the 3GS controller you can now print off the RPA options you have just configured.

Press NO to exit the menu and return to the normal display.

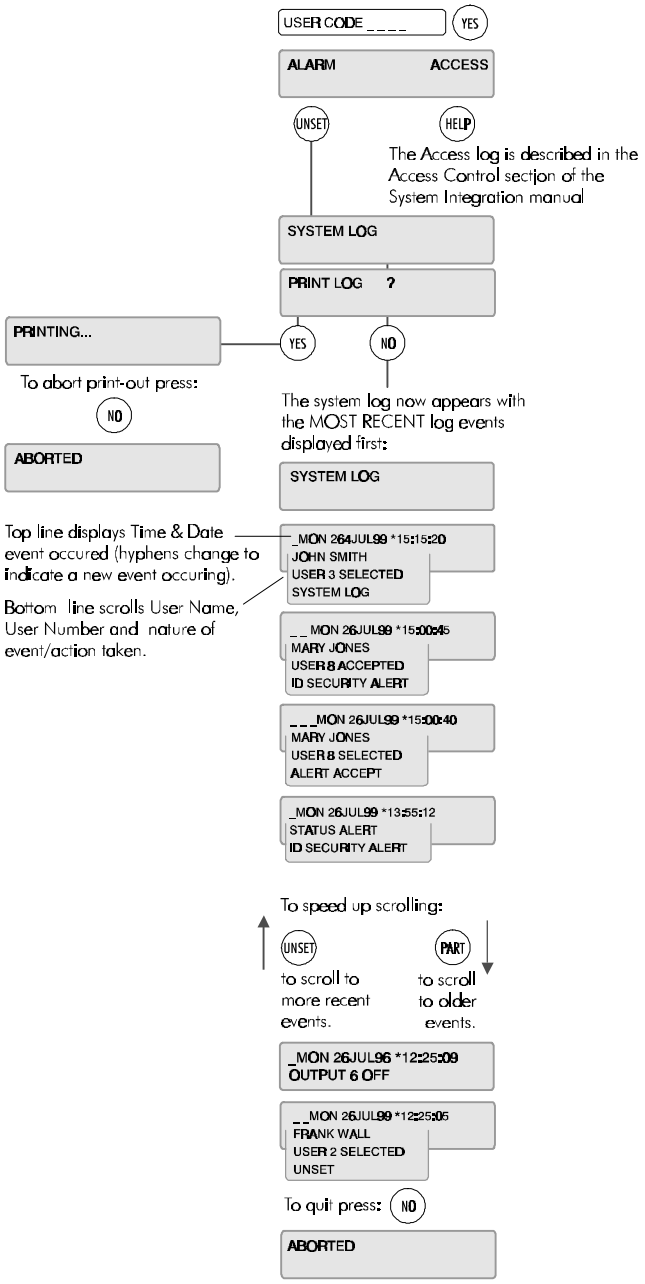
SYSTEM LOGS

The 3GS alarm log is a record of all system activity (keypad input, status alerts, alarm activations etc.) and this may be viewed or printed if a hard-copy is required. The detail and length of the log provides an invaluable record of the system operation for both fault finding and alarm analysis.

The alarm log is 1000 events long (the Access Log is 3000 events) and each event is detailed with exact date and time to the nearest second. System events are displayed chronologically with the most recent events appearing first.

The alarm log gives 4 details for each event, which are appear on the display in sequence:

- the date and time of the event;
- the user name or zone number (e.g. Master User);
- the user number or zone description (e.g. User 2 Selected);
- and the action taken (e.g. System Log)



Alarm and Access Logs

3GS gives 2 types of log: the standard **Alarm Log**, which displays all the system events (as described here); and the **Access Log**, which displays only Access Control-related events, such as Invalid Card Entry, Door Forced, and Time Zone Setup. The Access Log should be viewed using 3GS+.

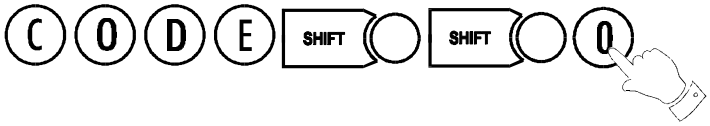
Printing the Alarm and Access Logs

When the option "PRINT LOG?" is displayed, if a serial printer is connected and the serial port correctly configured, a print-out of the log can be generated by selecting the YES key. Otherwise, any other key should be pressed and the log will be displayed.

Viewing the Alarm and Access Logs

The log display can be stepped through quickly one line at a time by pressing the (#) key. The "*" appears in the centre of the date & time display to make the log easily differentiable from the Stand-by/Unset/Disarm mode display. The date and time remain visible in the display until all information regarding that particular event has been shown. The PART SET key will 'rewind' one entry at a time to the first entry of the date currently being displayed, the UNSET key will skip to the next entry. To leave the system log at any point in the record, press the NO key.

RADIO PA TEST



This option allows you to test each RPA unit in turn to ensure that the functions are correctly configured.

The system buzzer will sound intermittently to indicate that the test is in progress.

The display will show

TEST RADIO PA

followed by

No buttons pressed

Your installer will give a list of the button combinations for each option. When you press a button or combination of buttons, the display will show the option assigned to that button and the field strength of the signal.

For example, if RAID has been assigned to the right (green) button, press this button. The display will show:

RPA3	SECURITY 1
RAID	100%

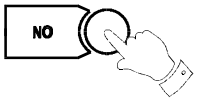
If the right (green) button has not been assigned to this function, the display will show

RPA3	SECURITY 1
Right	100%

indicating the button that you have just pressed.

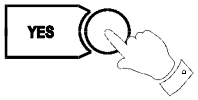
Note *NOTE: Some units may not show the percentage value.*

Using the list given to you by the installer, go through each option in turn, ensuring that the right button combination gives you the right option.

When finished, press 

to exit. The display will prompt:

Are you sure ???

Press 

to confirm.

When the RPA battery is low..

When the RPA battery level is low, the test information will not appear on the display.

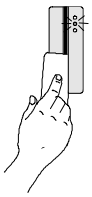
Instead, the display will show

RPA3	SECURITY1
RPA BATTERY LOW	

Replace the battery.

3GS ACCESS CONTROL

3GS can control up to 64 doors with internal and external readers, and 10,000 cards/tokens per system.



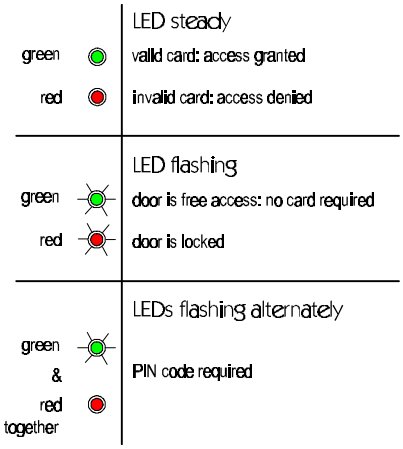
Access Control Readers

A variety of reader types are supported:

PIN code, magnetic stripe cards, proximity cards, 'hands-free' cards or a combination of card and PIN code.

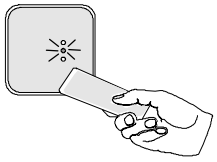
LED displays

Card readers may display a variety of LED indications:



Setting the system using access cards

3GS allows for cards to control setting/arming and unsetting/disarming of the complete alarm system, or parts of it (i.e. areas). Please consult your 3GS installer for details.



- **Unset/Disarm inside the door:** If the area is set/armed, then when a card with this function is presented to the entry reader, the user is granted access to the door. When the door is opened it will start the entry timer. This allows the cardholder to unset/disarm the system by presenting the card to the exit reader.
- **Unset/Disarm outside the door:** If the area is set/armed, then when a card with this function is swiped on the entry reader, the user is granted access to the door. When the door is opened it will unset/disarm the system or area immediately.
- **Set:** If the area is unset/disarmed, then the cardholder can set/arm the area/system by presenting the card to the exit reader and then presenting it to the entry reader during the FUNCTON ENABLE TIME. Alternatively the cardholder can use the SET button to set/arm the area/system after pressing the card to the exit reader.

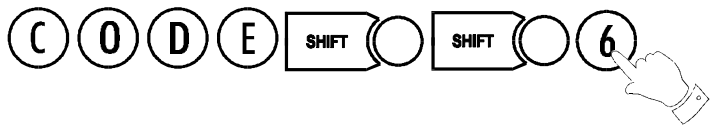
Note *Please consult with your installer before operating these functions*

Asset Protection

3GS Access Control can also be configured to protect assets (such as PCs). By locating tokens placed inside the asset, and fitting 'hands-free' readers at doors. 3GS can be set up to report the illegal removal of the assets. Please consult your installer for details.

3GS allows for visitor cards, holidays, a multitude of access levels, anti-passback, car park control, roll call of building occupants and much more. Consult your 3GS installer for more details.

SETUP CARDS



3GS has a capacity of up to 10,000 access cards. This menu will set up the cards for use with the system.

Note *The 3GS panel menus for cards are similar to those of 3GS+ Software. The card settings entered into the panel can be uploaded to the PC and vice versa. Using 3GS+ to change access cards settings is recommended.*

Cards.. Assign

To pass cards into the 3GS system, they must be given a card ID between 1 and 9999.

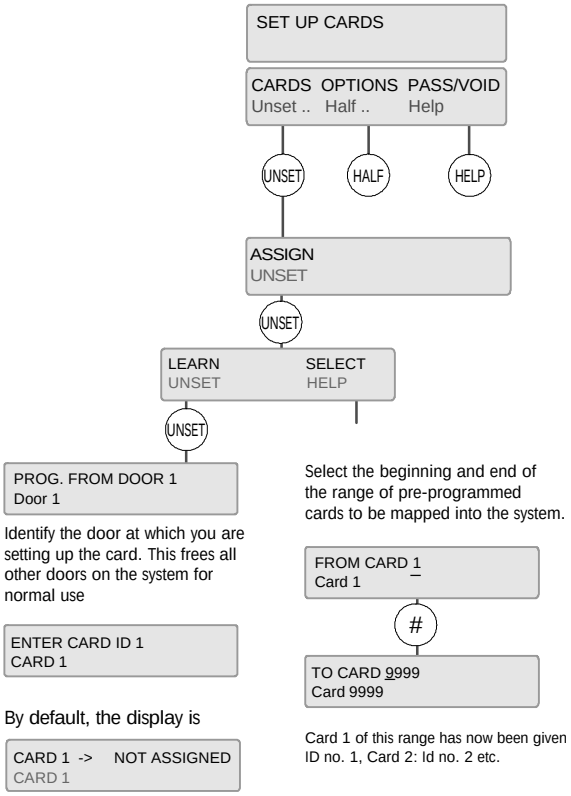
This menu allows you to assign IDs to cards in 2 ways:

- **Select.** Batches of cards with pre-coded numbers of between 1 and 9999 can be passed directly into the system and given corresponding system IDs. the first card of the batch becomes Card ID 1, the second becomes Card ID 2, etc.

  In effect, this gives you 1-to-1 mapping, automatically assigning IDs to cards.

- **Learn.** The card to be passed is of unknown origin and the pre-encoded number is not known. In this case the card is presented at a card reader, assigned to a system door, and then given a system ID.

  You will be prompted if the ID has already been assigned, in which case you can over-write the existing card, or choose the next available ID.



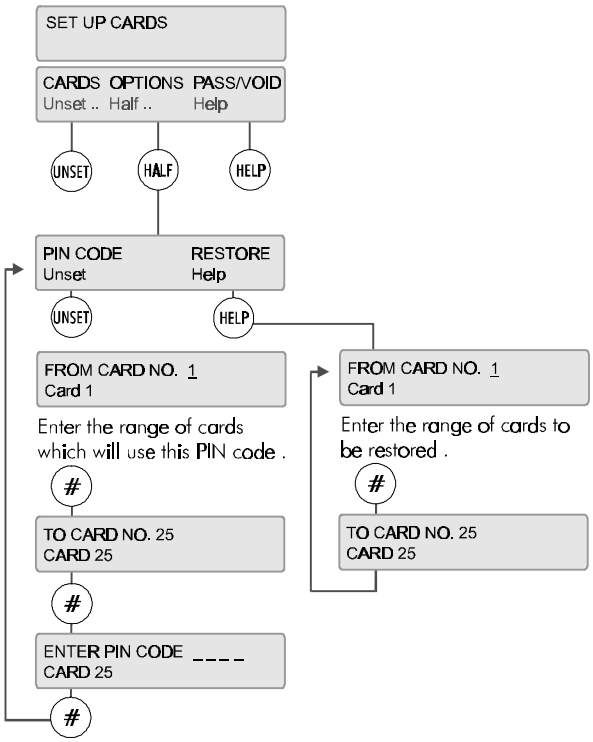
Cards.. Options

The Options menu is used to assign a PIN code to one or a range of cards, and to restore the settings of cards that have been deleted from the system.

When an invalid PIN code has been entered three times, the card to which the code is attached will be deleted from the system.

The Restore menu will restore this card to the system without the need to set the card up again.

See the menu below.



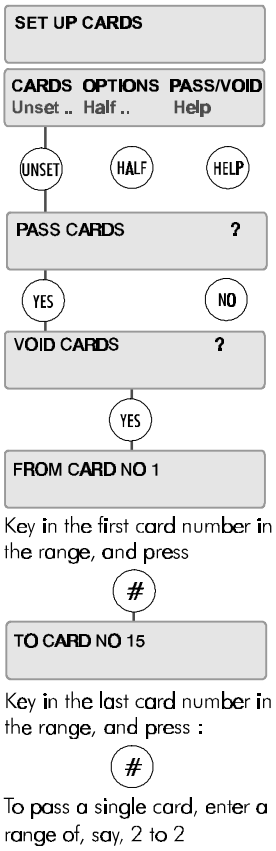
PASSING AND VOIDING CARDS

Once a Card ID has been assigned, the card can then be passed into the system.

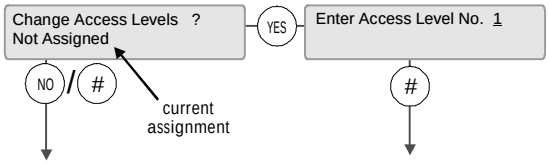
Card Range

Enter the range of cards to be passed, from 1 to 9999. To pass a single card, enter the card number and press the # key twice.

Once the card(s) has been passed, you will be prompted for the Access level for this/ these cards.

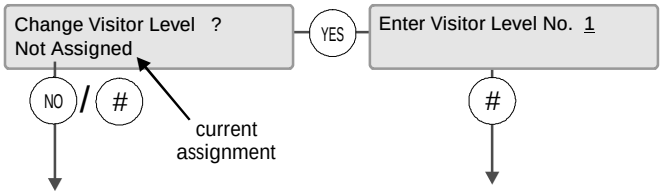


Change Access Level?



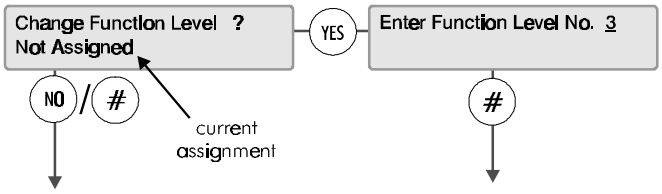
An Access level is a combination of a limited time period and a group of doors, so that once applied to a card, it will limit the card user to having access to certain doors at certain times only. Up to 250 Access levels are programmed by the installer, who will indicate which levels should be assigned to which cards. When you have assigned an Access level, you are prompted for the Visitor Level.

Change Visitor Level?



The Visitor Level is used to program temporary cards, which will only be valid for a certain period of time (between a given Start Date and End Date). The system allows for up to 250 different Visitor levels, which are programmed by the installer. Once assigned, you are then prompted for a Function level.

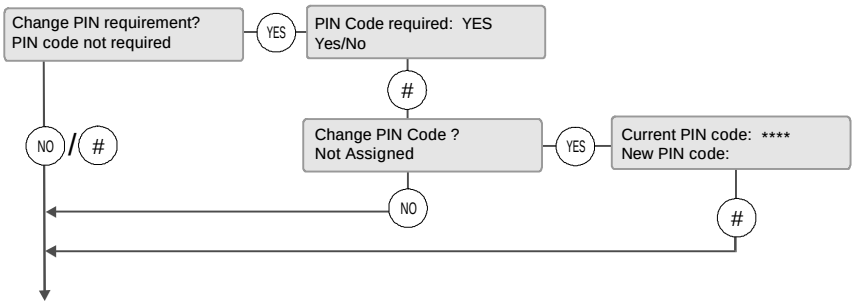
Change Function Level?



Function levels give the user the ability to set/arm and unset/disarm an Area by presenting a card to a reader outside the Area entrance door. A Function level will give a card 3 extra capabilities: to unset/disarm an area from the outside, to unset/disarm an area from inside, and to set/arm an area once you have left (by swiping your card at a reader near the exit door). Up to 250 Function levels are programmed by the installer. When you have assigned a function level, you are prompted to change the PIN code requirement for the card.

Note *Please consult your installer on the correct procedure for setting/arming or unsetting/disarming the system using your card.*

Change Requirement

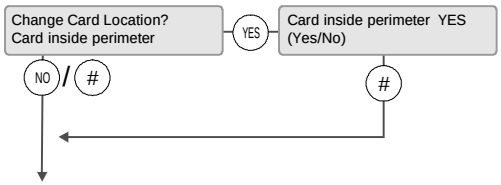


This option allows you to decide if a card should also require a PIN code before it will grant access through a door. It also allows you to change the existing PIN code for the card or create a new one.

Note *The user should be aware that the PIN code created using this option will apply to all the cards being passed at this stage*

Once a PIN code requirement has been assigned, you will be prompted to identify the card location.

Change Card Location?

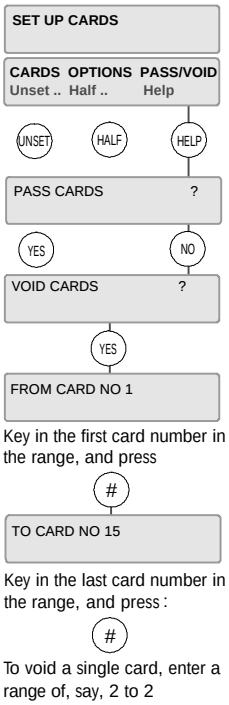


When passing the card, you must establish where the card actually is at the time of passing. The **Roll Call** and **Anti-Passback** functions allow the installer to identify which cards are in use in the system at any given time, and to control the use of cards within the system. This menu will identify the card as being inside or outside the alarm area when passed. When all the system cards can be located at any time, they can be tracked and controlled effectively. When you have assigned the card a location status, press the # key to return to the main menu.

Voiding Cards

The Void Cards option is used when you have a set of cards that you want to be removed from the system.

Voiding a card removes all the card's settings from the system, from system ID to access/ function/visitor levels.



Exiting the Setup Cards menu

Press NO to exit the Setup Cards menu.

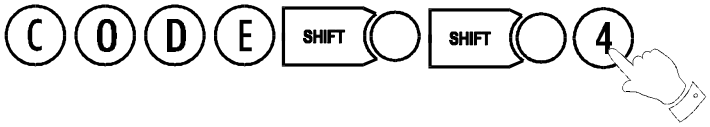
The display will show:

PRINT DATA ?

If you have a printer connected to the controller serial port, you can now print out the card settings you have just configured.

Press YES to print and NO to exit the menu.

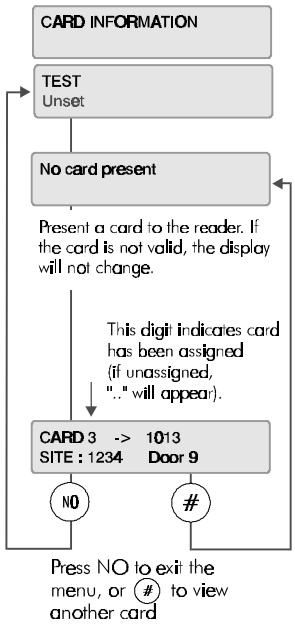
CARD INFORMATION



The Card Information menu allows you to test the validity of a card and check that the card settings that you have configured have been entered into the system.

Select the menu option. When the prompt `No card present` appears, swipe the card or present it to the reader.

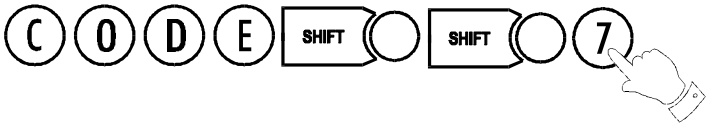
The display will then give details of the card ID, site code (which is configured by the installer) and door at which the card is being presented.



Note *When a card is presented, the display may not always show the card number.*

If the display does not show any information about the card, present the card to the reader again.

MANUAL DOOR CONTROL



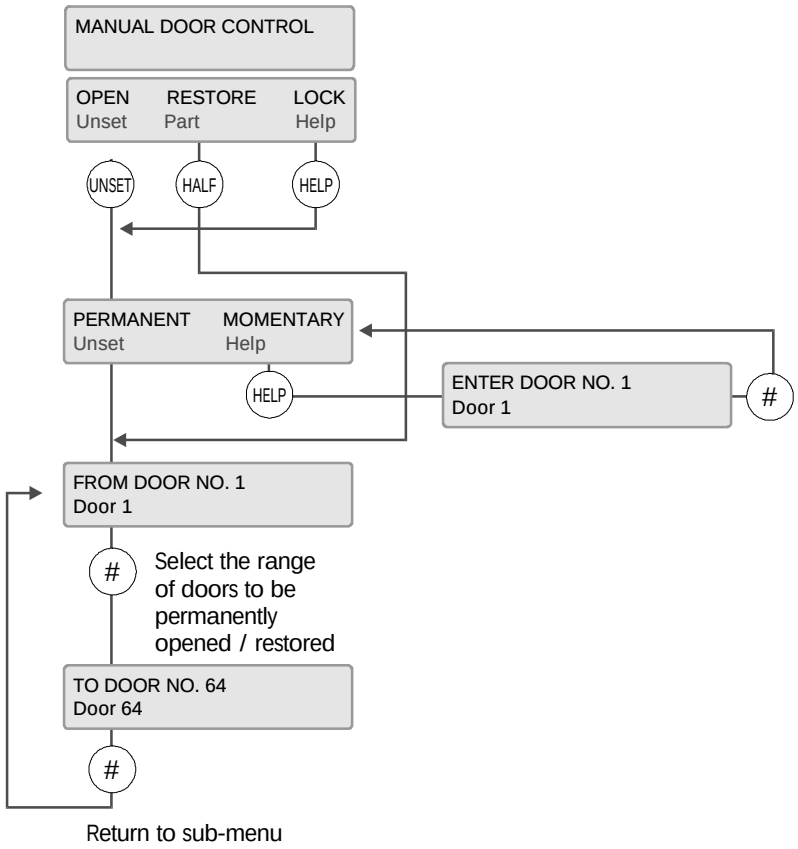
The **Manual Door Control** feature gives the user a manual over-ride on all system door settings.

At any stage, the user can use this menu to open/lock a door or series of doors.

Once you have selected your doors, the system will check for Lock/Open Inhibits operating on these doors **[*See page 8-39: Door Configure*]**. If none have been set, the doors can be opened/locked via the keypad.

The Open menu allows you to open a range of doors permanently - i.e. the door will remain open until you manually restore the original door settings, or momentarily - you can open one door for the number of seconds for which the door lock would normally remain open once access has been granted **[*See page 8-42: Door Configure - Timers*]**.

When you select Permanent, you are prompted to enter the range of door numbers you wish to open. Enter the From and To ranges. When the Permanent condition is set on a door, the green LED (access granted) on the node will flash. This allows free access through the doors selected until restored or locked.

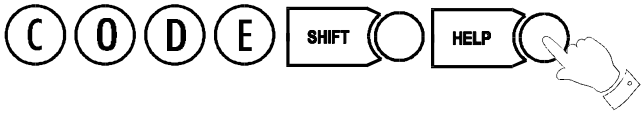


The Momentary sub-menu will ask you for the number of the door you wish to open momentarily. Again, enter the number. The green LED will light steadily while access is granted.

Restore restores all door settings to their defaults. Enter the range of doors to be restored and press # to accept and quit. Once defaults have been restored, the system is in normal operation and no LEDs are lit.

The Lock menu works similarly to Open. When the Lock is manually set on a door, the card reader attached to the door will not read or accept any cards. When the door is locked in this way, the red LED flashes to indicate access denied.

HOUR ADJUST



This option adjusts the system clock to automatically take account of the Summer / Winter time change (Daylight Saving Time).

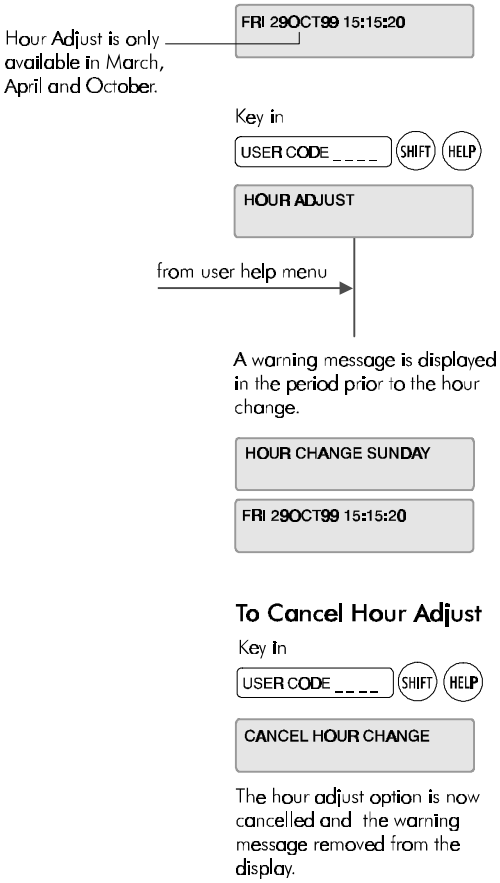
It must be selected during the week prior to the Sunday on which the hour change is to occur at 2.00am.

A warning message is displayed until the function is executed - "Hour Change Sunday".

The system will automatically set the hour forward or back as appropriate.

The option toggles on and off – you cancel the hour change by selecting it again.

Note *Hour Adjust should only be selected during March/April and October.*



To Cancel Hour Adjust

EDIT TIME COMMANDS

An automatic time command is a programmed command string which instructs the 3GS to execute a function at a pre-set time. For example, the system could be instructed to automatically Full set the premises at 18:00.

Certain time commands are for installer use only, as indicated below. The other commands are for Master User use.

This mode is a simplified "time command edit" function which allows the Master User to modify the TIME at which the action will occur without allowing alteration of the command.

The new time must be valid (24-hour format) or the procedure will not continue.

After adjustment is made the (#) key should be pressed to program the new time into the system.

Movement forward and backward through the time strings is provided by the UNSET and PART keys.

SUNDAY HOUR

Checks for Hour change on Sundays. Installer user only.

LOG DUMP

Sets dial-out variable for system to dial a remote PC/Printer. Installer user only.

AREA 1 10M WARN to AREA 8 10M WARN

Automatic arming commands for Areas 1 to 8.

These commands (one for each block) start a 10-minute warning time (to inform people that they must leave the building) after which time the relevant area will arm.

BATTERY TEST

This command sets a time (1 per day) at which an automatic battery test will be carried out. Installer user only.

FULL SET 10M WARN

Automatic arming command for the full system. Works in the same way as the Area 10-minute Warning but in this case the full system will arm.

Late working time commands

These commands allow for late working on the premises. They will arm the system/ area if the first arming time command is cancelled. These are:

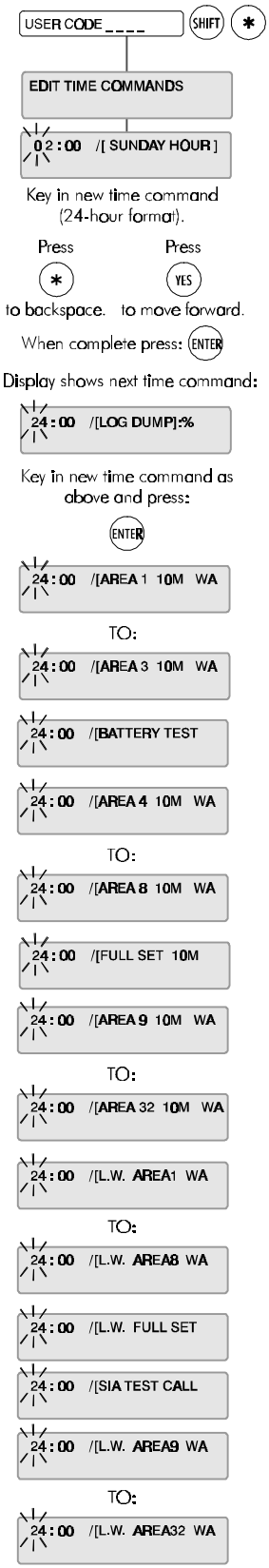
L.W. AREA1 WARN to L.W. AREA32 WARN

L.W. FULL SET WARN

E.g. AREA1 10M WARN may be set to 7pm and the L.W. AREA1 WARN set to 9pm. Normally the first time command would arm the area 1 at 7pm. However, if the user cancels the first time command in order so that he/she may work late then the first time command is ignored and the system will be armed by the second time command at 9pm.

SIA TEST CALL

Sets a communication parameter. Installer use only.



INHIBIT ZONES/DOORS

This option is used for temporarily isolating troublesome zones (doors, windows, movement detectors, etc.) which may be preventing the system from setting. Zones/doors may be inhibited singly or in blocks.

Note *The problem zone/door will be indicated on the display, e.g. Zone 3 Tamper, Door 4 Open. Inhibit Mode provides two identical sub-menus, for zones and doors. Use the appropriate sub-menu to implement the inhibit.*

If zones/doors have been inhibited, on selection of FULL set mode, a message will indicate how many are inhibited.

Selection of this option is logged by the system and an asterisk appears beside the log entry to indicate the zone has been inhibited manually (zone may also be inhibited via literal commands). The identity of the user to select the option is also logged.

Operation

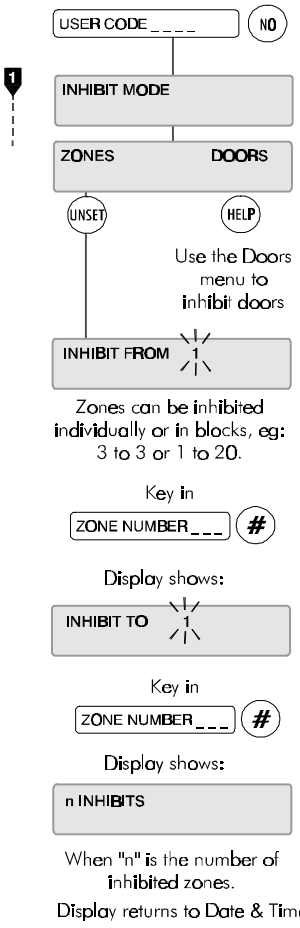
Having entered the user CODE and then pressed the NO key, the display will read "INHIBIT FROM 1". Enter the number of the first zone to be inhibited followed by (#). The next displayed message is "INHIBIT TO 1".

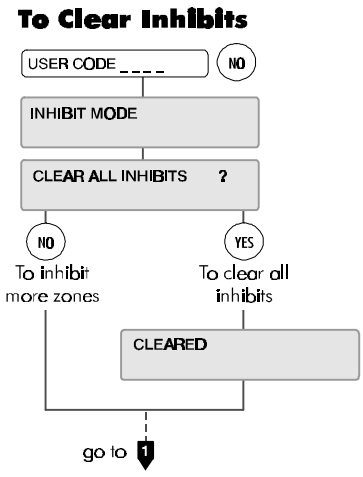
Enter the number of the last zone in the block to be inhibited. This will be the same as the first zone if only one zone is required. After the second parameter has been entered the display will show "n INHIBITS" where n is the number of zones/doors inhibited) and the buzzer will sound briefly before returning to UNSET mode displaying the date and time.

The INHIBIT function can be re-entered any number of times to inhibit more zones/doors, existing inhibited zones/doors will not be affected.

Clear Inhibits

To clear inhibits, re-enter Inhibit Mode using the engineer code followed by the NO key. The message "CLEAR ALL INHIBITS?" will appear in the display. Press YES to clear the inhibited zones. Press NO to inhibit more zones or to view those zones which are already inhibited.





USER OPTION ASSIGNMENTS

Use these tables to record the options that have been assigned to the system users.

User No.	User Name (max. 24 characters)										

AREA DESCRIPTIONS

Use these tables to record the descriptions of the areas on your system.

Area no.	Area Description (max. 24 characters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
26	
27	
28	
29	
30	
31	
32	

USER AREA ASSIGNMENTS

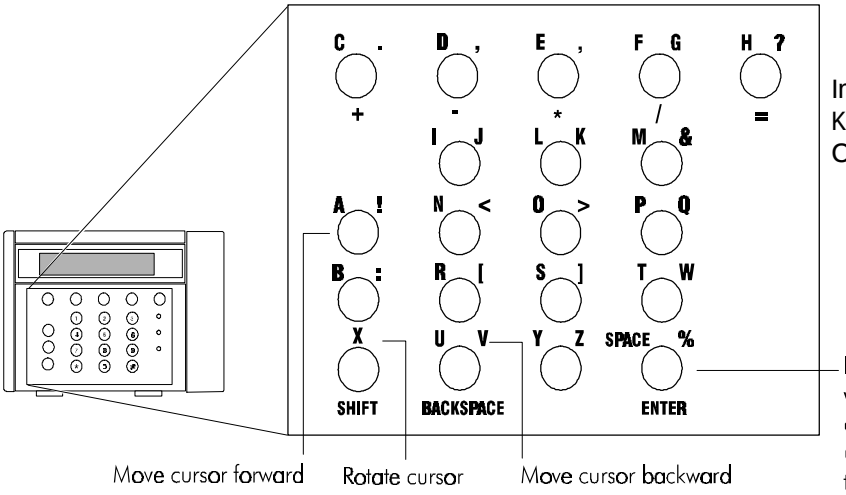
Use this table to record the assignment of areas to users.

User name (max. 24 characters)	User no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

User name (max. 24 characters)	User no.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

TYPING TEXT

This is a function normally carried out by the 3GS Installer. Ensure your 3GS system is configured with full text descriptions for all alarm zones, areas, alarm users and access card holders before it is handed over.



The cursor will be in character position 1, i.e.: Λ
Locate the character you wish to enter.

Example: L K (2) Most keys will have three characters when in typing mode.
The orientation of the cursor governs which character is selected.

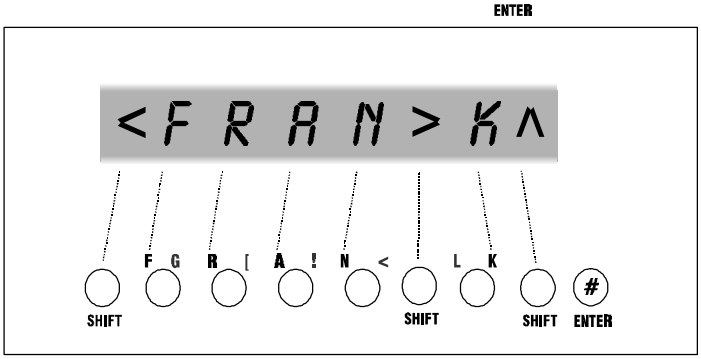
Λ will select "2". < will select "L". > will select "K".

To delete characters

With the cursor in position 1, use the (*) key to move the cursor back over the characters.

When the cursor is over the character to delete, hold the SHIFT key down.
The keypad beeps as it deletes characters to the right.

With the cursor in the Λ character position, press (#) to complete text entry.



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Unable to set the system 10
Unset /Reset 5
Unsetting an area 12
Unsetting the system 5
User ID codes 16
User names 18
User Option Assignments 34
User reset procedure 13
User Setup 16

V

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3GS Peripheral Devices

About this Section

The Communications section describes the communication components of the 3GS system.
It is divided into the following chapters:

Communications

- Serial port wiring details, for connection to a PC, modem and other comms devices.

Peripheral Devices

- Self activating bell.
- Hand held terminal.

Appendices

Technical Specifications

10 HAND-HELD TERMINAL

In this chapter

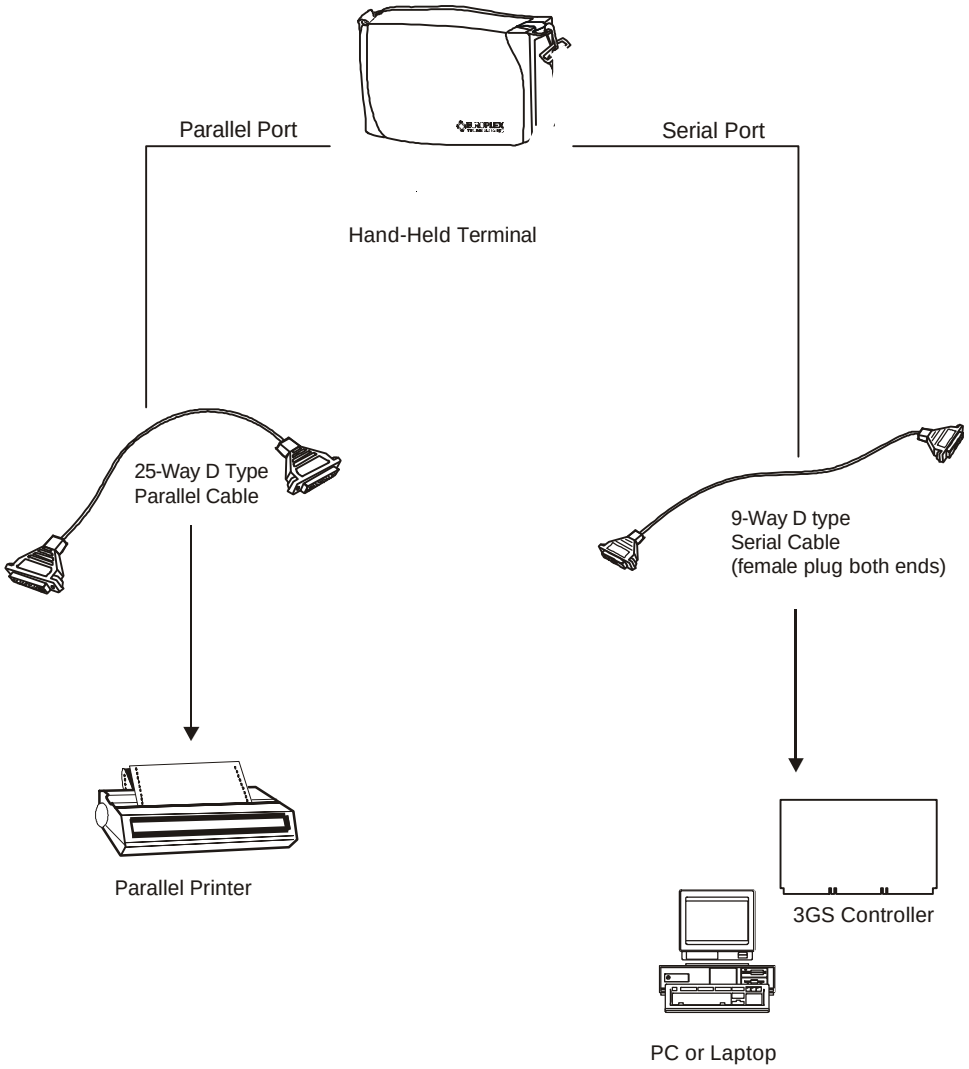
- Overview 10-1
- Main menu 10-3
  - RKD emulation
  - Data buffer function
  - Utilities mode

HHT OVERVIEW

The infra-red hand held terminal (HHT) is a compact, battery operated device for use with the 3GS system.

You use the HHT to communicate with the nodes on the system and to extract information such as input and output status, voltage and current draw, Ringnet communications status and so on. You can also use the HHT to emulate an RKD node in order to program the system (via either the infra-red link or over a direct connect link to the controller serial port.)

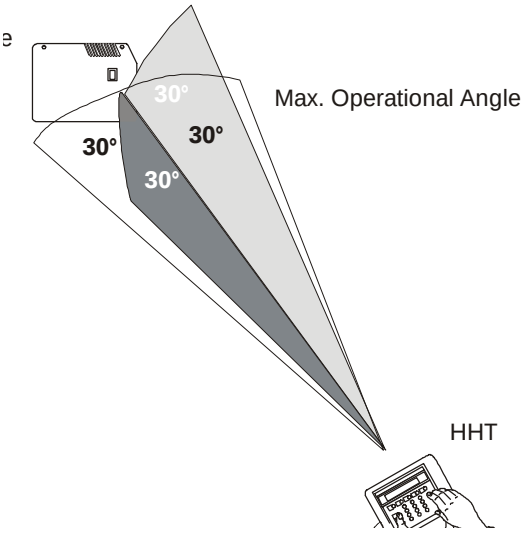
The HHT filesaver (or Panel Data Buffer) facility allows you to transfer a complete system configuration to or from a panel or PC.



Infra-red port communication

Note the following guidelines for effective infra-red data transmission between the HHT IR port and node IR port:

- The maximum distance between devices should not exceed ten metres.
- For optimum performance, IR ports should not be facing more than 30 degrees away from the direct signal path.
- If there are two nodes close to each other you can *lock on* to one or the other by holding the HHT closer to the required node.
- Ensure that there is no physical obstruction between both devices.



Powering the HHT

When mobile, the unit is powered by four 1.5V alkaline long-life batteries. These will provide a typical battery life of 60 hours. On power-up the display indicates the battery power status (OK/Low).

If a separate power source is available, you can connect a 9-12VDC power supply to the HHT's jack socket.

Battery save feature

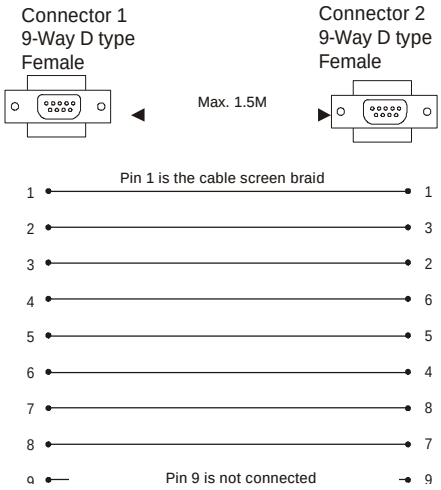
When operational, if there is no key input within a 180 second period, the unit will automatically power down. If, however, infra-red data transmission is active, it will override the power-down feature and the HHT will continue to operate for up to ten minutes.

Parallel printer connection

In addition to its infra-red capabilities the (HHT) can be connected directly to the 3GS controller as indicated below. This configuration enables the HHT to behave as a filesaver allowing full up and downloading of files. Having the HHT connected in this way introduces a parallel port into the system. A parallel printer can now be connected to the parallel port on the HHT using a standard 25-way D Type parallel printer cable, for downloading log information and so on. In addition, the configuration also allows for RKD emulation.

Serial connection

When the HHT is operating in RKD emulation mode you can choose between infra-red link and serial link. If you are using the HHT filesaver function, *only* a serial link may be used. Two 9-way D type female connectors are wired as shown below (cable supplied by Europlex).



The following diagram shows how the HHT can be connected by either a parallel port or serial port:

MAIN MENU

Power-up

To turn on the HHT, press the # button for at least one second. A number of status messages will be displayed, after which you will be requested to enter a 6-digit passcode (the default is 123456).

Incorrect code entered

If you enter an incorrect code you will have the option of re-loading the default settings; in this case any information stored in memory will be lost. If you do not require the code function, you may remove it from within the Utilities menu.

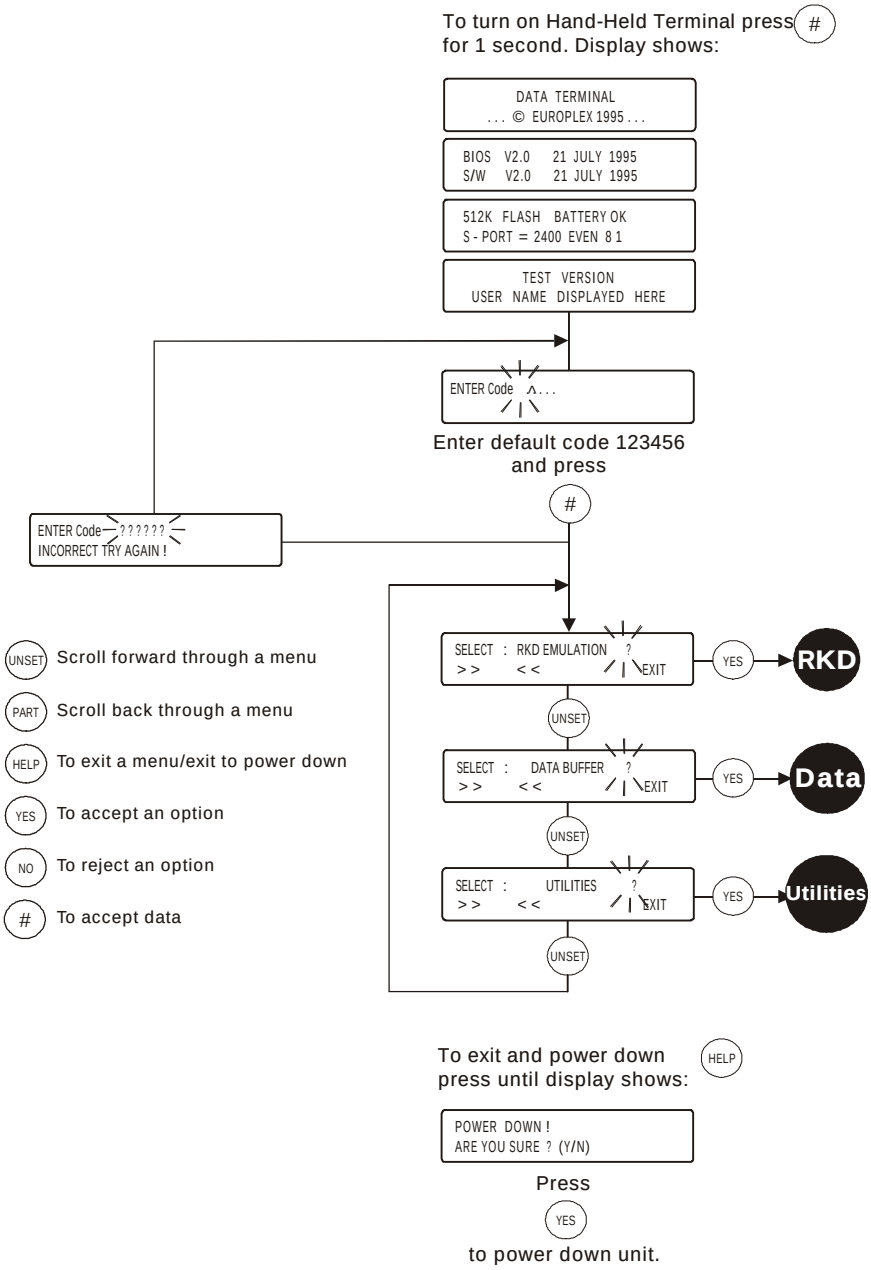
Modes of operation

The main menu provides three modes of operation:

- RKD Emulation
- Data Buffer (Filesaver)
- Utilities

Display messages guide you through the menu structure. The keys you will be using within any mode are: UNSET, PART, YES, NO, HELP and # (ENTER).

You can press the HELP key at any stage to exit to the previous menu.



RKD Emulation Mode

The RKD Emulation mode allows you to control, program and interrogate the 3GS system in the same manner as an RKD node. You can do this either remotely using the IR link or directly by connecting a cable between serial port 1 on the 3GS Controller and the HHT serial port.

The following options are available:

- RKD via IR Data Link?
- RKD via Serial Port

RKD via IR data link?

After selecting this option, point the HHT at the IR node port. The HHT will make ten attempts to initialise communications and if unsuccessful will display the message “Failed to find a node”. When communications are established with a node, the node’s autonomous menu structure is displayed. You can view the menu by scrolling using the UNSET and PART keys. You can toggle the node’s output state by pressing the # key.

Press the NO key to enter RKD emulation mode. The HHT will now operate as an RKD node on the system.

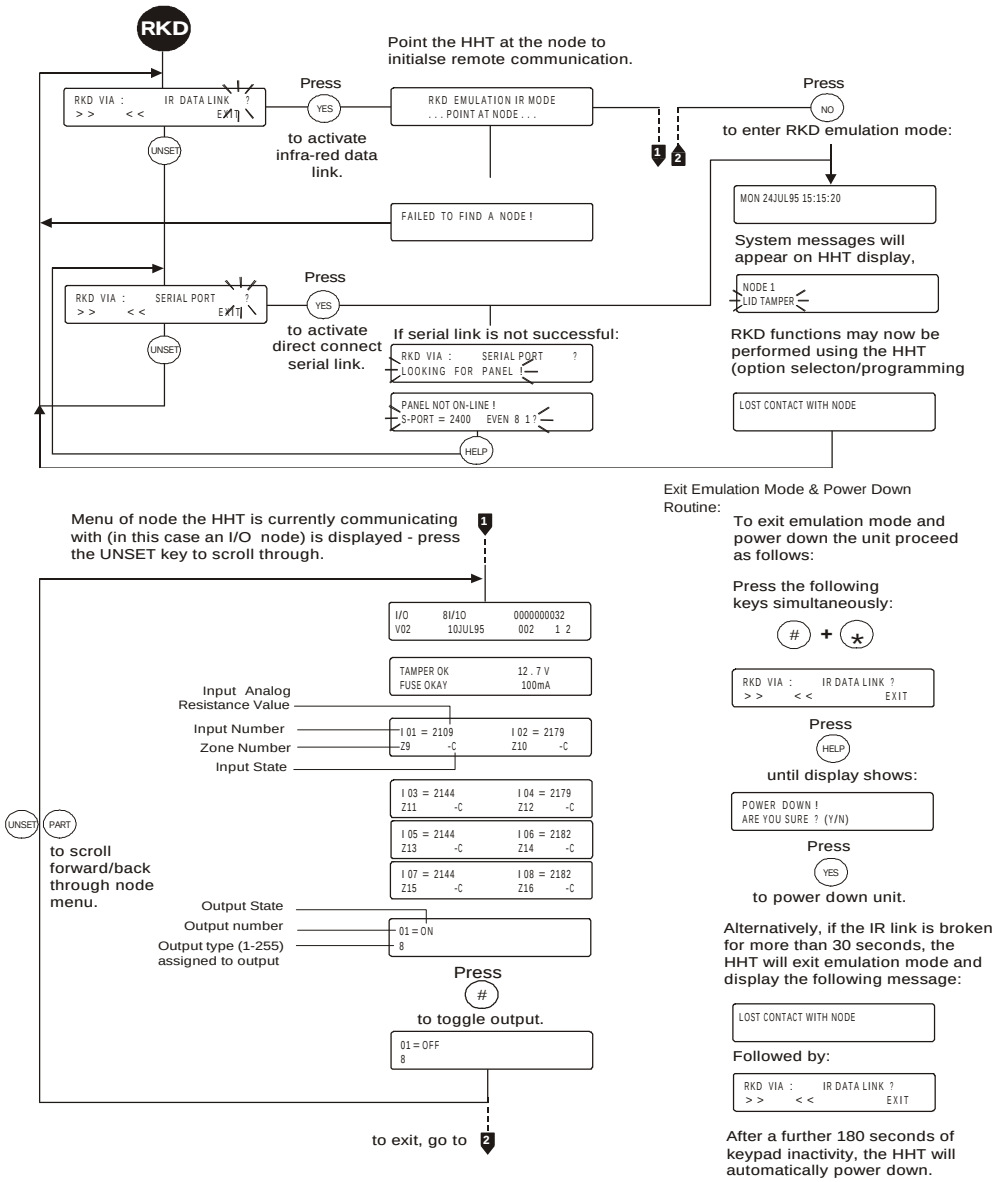
If the HHT infra-red link is broken for more than 30 seconds, the unit will exit emulation mode and return to the “RKD via IR Data Link” menu option.

RKD via serial port

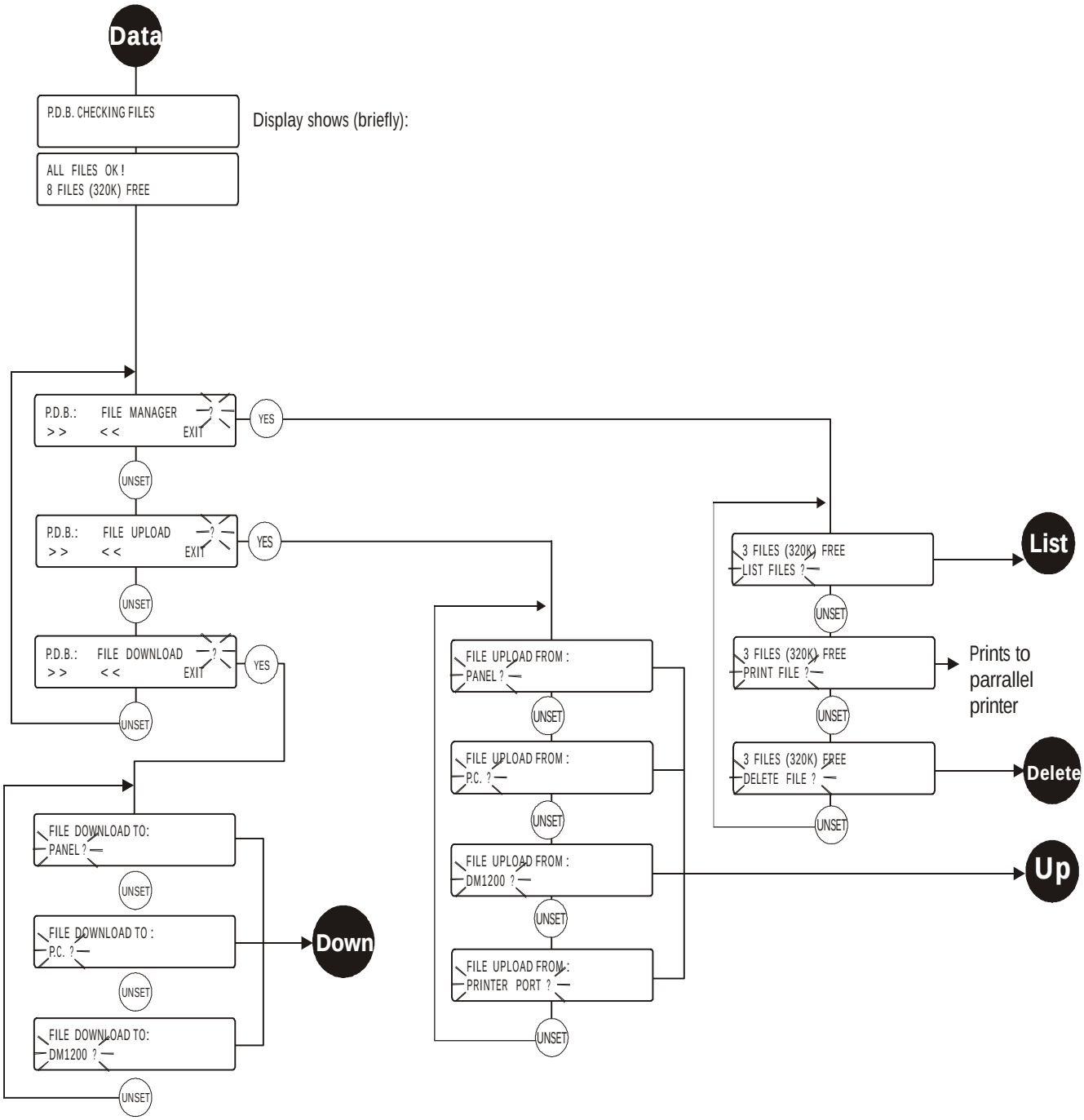
As described previously, a serial connection can be made between the Controller and HHT. The default communications protocol for both devices is set as:

- **baud rate:** 2400
- **parity:** Even
- **data bits:** 8
- **stop bits:** 1

To change these settings press the NO key. **[*See page 10-9: Utilities Mode - Serial Port*].** When communications have been established, the HHT will emulate an RKD.



Data Buffer (Filesaver) mode



The Data Buffer (Filesaver) mode allows you manage and transfer 3GS literal files. You can store up to eight system configuration files in the unit. You can download these files at a later stage to a PC running Panelman, to a parallel printer or to a DM1200 digital communicator.

Note *In this mode, you must transfer data via a serial connection rather than via IR comms.*

The following options are available:

- File Upload
- File Download
- File Manager

File Upload?

The following sub-options are available:

- **Panel?** Use this option to upload a system's configuration (zone descriptions/types, variable settings, literal file changes, and so on) in file format for later restoration (for example, after a cold start) or for transfer to a PC.
- **PC?** Use this option to upload a Panelman file via the PC serial port.
- **DM1200?** Use this option to upload literals 387/388/389 from the DM1200. These literals are stored in the DM1200's EEPROM and contain digital

communicator/modem set-up data such as telephone or account numbers.

- **Printer Port?** This option allows the HHT to capture data sent by the controller (via serial port) as if it were sending it to a printer. Typically this could be the system log.

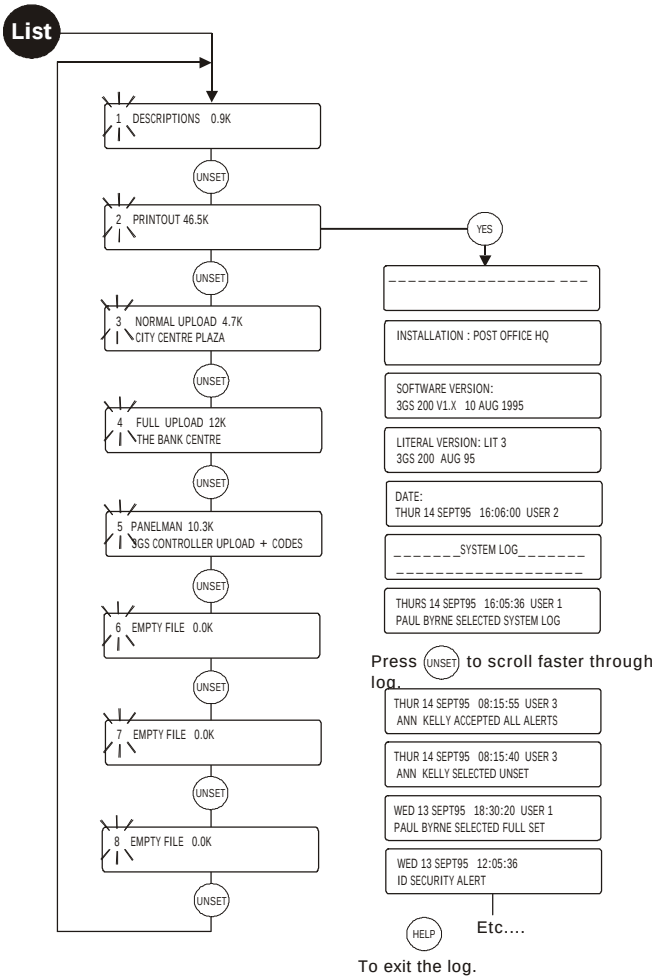
File Download?

Use this option to download a stored file to the Controller, a PC or DM1200.

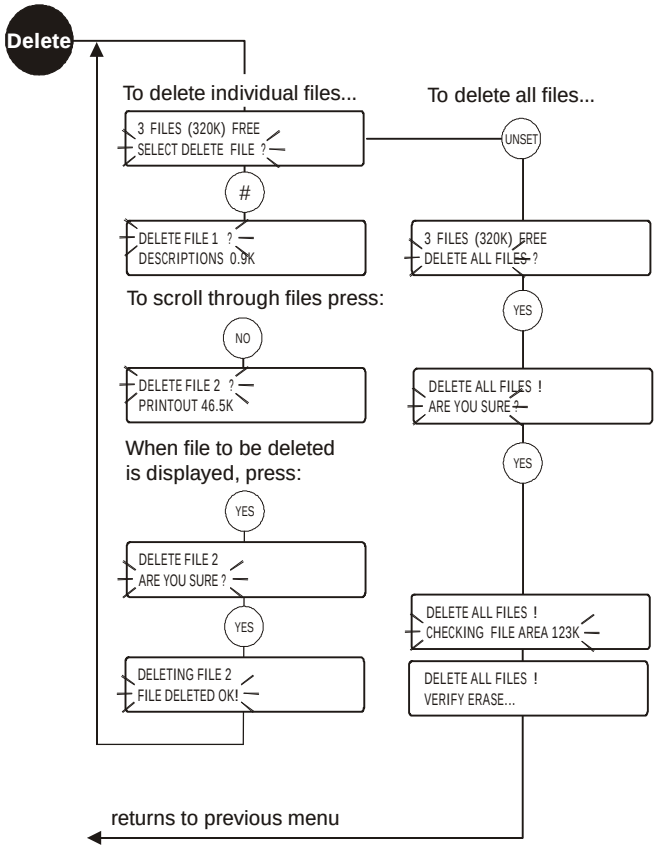
File Manager?

The following sub-options are available:

- **List Files.** Use this option to view the number of stored files and see the file size in kilobytes. The file's name and origin are also displayed if programmed. Press the YES key to view the contents of a log printout. Press the UNSET key to increase scroll speed.

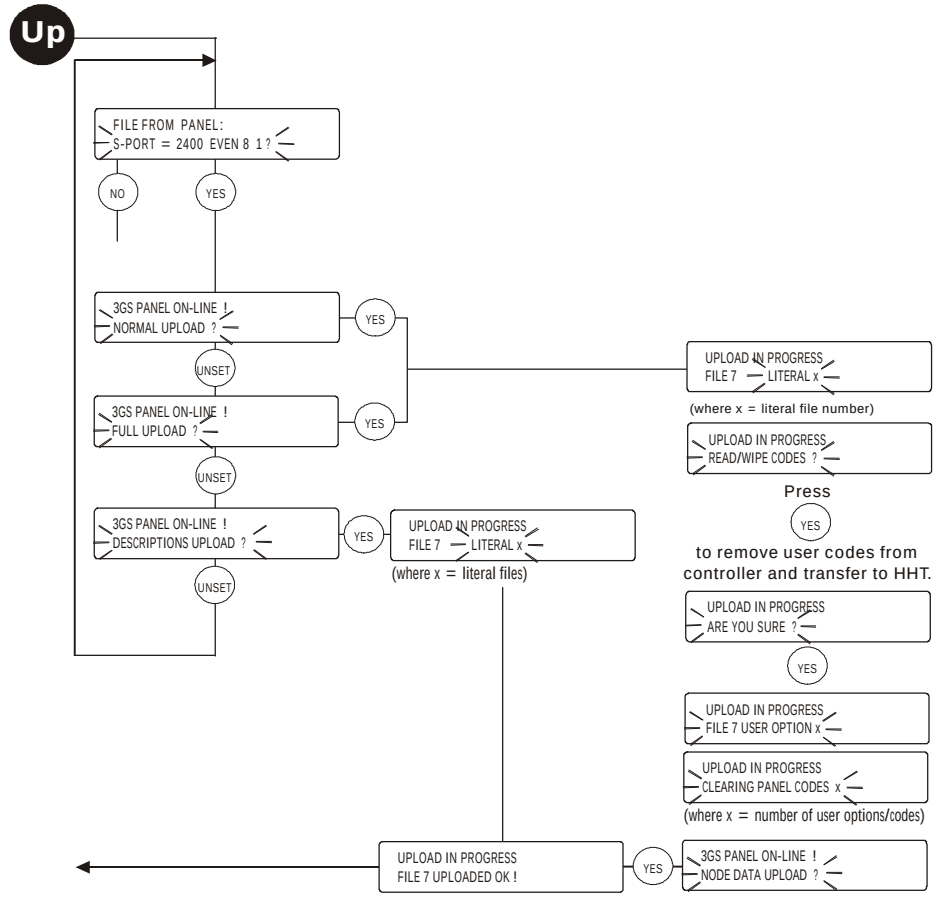


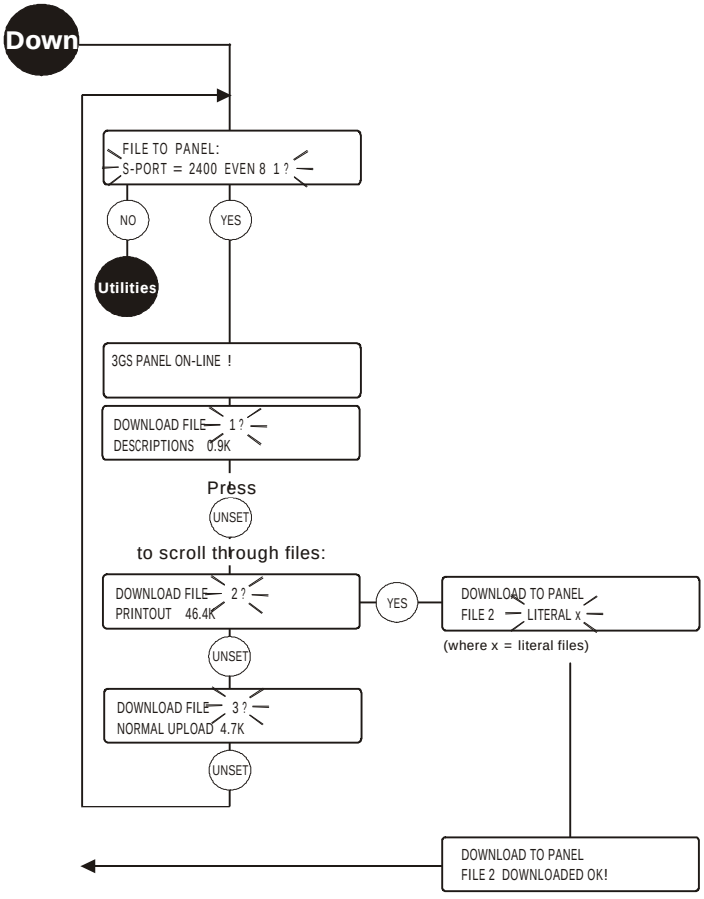
- **Delete Files?** Use this option to delete files individually or as a group. Note that codes are only stored in one location at any one time. If you select the Wipe Codes option when performing an upload, all codes (including default codes) will be removed from the 3GS Controller. Therefore, before a download is performed, the HHT is storing the only file containing these codes. It is important to consider this before deleting a file.



- **File from Panel.** This option displays (flashing) the HHT's current serial port settings. If they do not match the source device's serial port settings press the NO key. (See diagram on next page).
- **Node Data Function.** Use this option to upload the data relating to all nodes on the system, as follows: node serial number, node type, node ID, number of node inputs/outputs, software version, node status.
- **File Download.** This option displays (flashing) the HHT's current serial port settings. If they do not match the target device's serial port settings press the NO key. After downloading a file to the 3GS controller you should perform a *cold start*. This prevents conflict between the system's log and the downloaded literal file. (See diagram on next page).

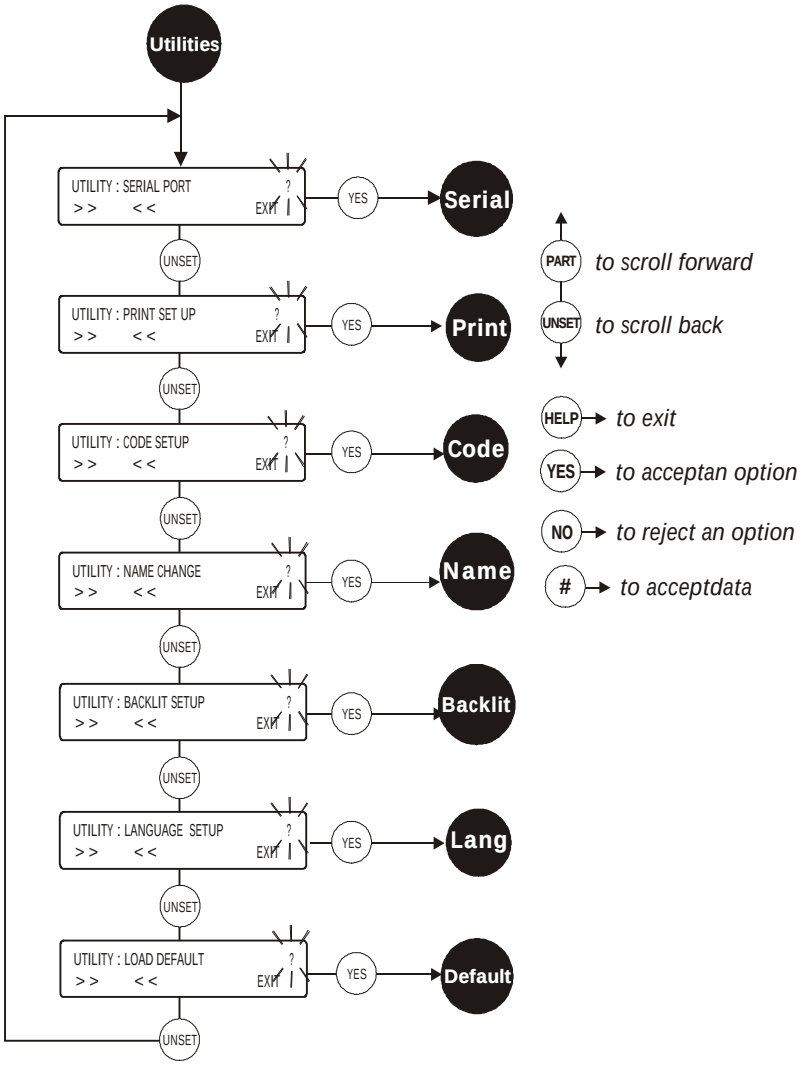
Diagram


Up
FILE FROM PANEL:
S-PORT = 2400 EVEN 8 1 ?
NO
YES
3GS PANEL ON-LINE !
NORMAL UPLOAD ?
YES
UNSET
3GS PANEL ON-LINE !
FULL UPLOAD ?
YES
UNSET
3GS PANEL ON-LINE !
DESCRIPTIONS UPLOAD ?
YES
UNSET
UPLOAD IN PROGRESS
FILE 7 LITERAL x
(where x = literal files)
UPLOAD IN PROGRESS
FILE 7 LITERAL x
(where x = literal file number)
UPLOAD IN PROGRESS
READ/WIPE CODES ?
Press
YES
to remove user codes from
controller and transfer to HHT.
UPLOAD IN PROGRESS
ARE YOU SURE ?
YES
UPLOAD IN PROGRESS
FILE 7 USER OPTION x
UPLOAD IN PROGRESS
CLEARING PANEL CODES x
(where x = number of user options/codes)
UPLOAD IN PROGRESS
FILE 7 UPLOADED OK !
YES
3GS PANEL ON-LINE !
NODE DATA UPLOAD ?

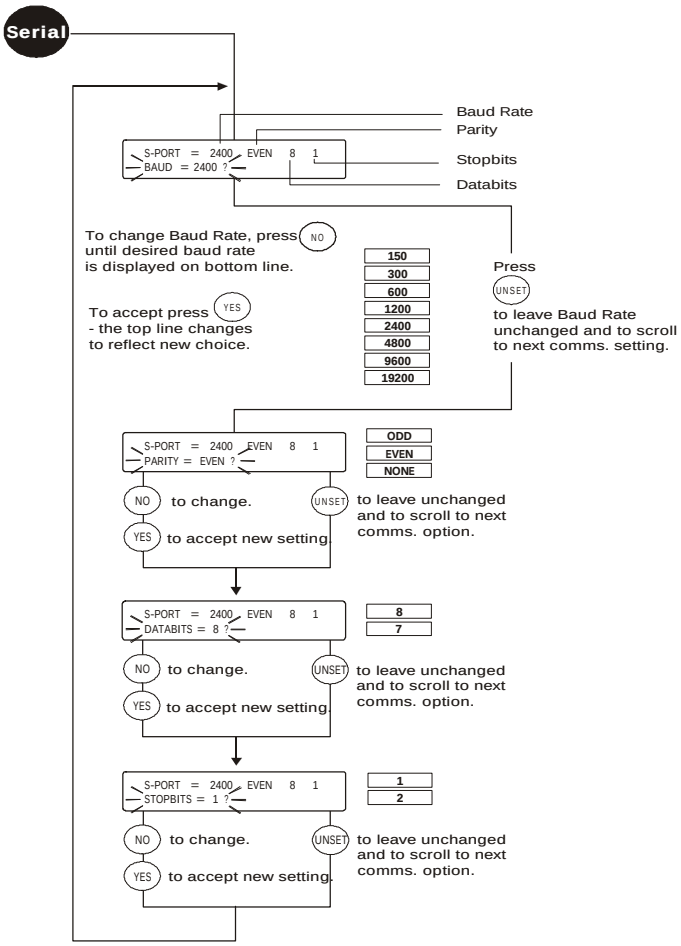

Down
FILE TO PANEL:
S-PORT = 2400 EVEN 8 1 ?
NO
YES
Utilities
3GS PANEL ON-LINE !
DOWNLOAD FILE 1 ?
DESCRIPTIONS 0.9K
Press
UNSET
to scroll through files:
DOWNLOAD FILE 2 ?
PRINTOUT 46.4K
YES
UNSET
DOWNLOAD FILE 3 ?
NORMAL UPLOAD 4.7K
UNSET
DOWNLOAD TO PANEL
FILE 2 LITERAL x
(where x = literal files)
DOWNLOAD TO PANEL
FILE 2 DOWNLOADED OK!

Utilities Mode

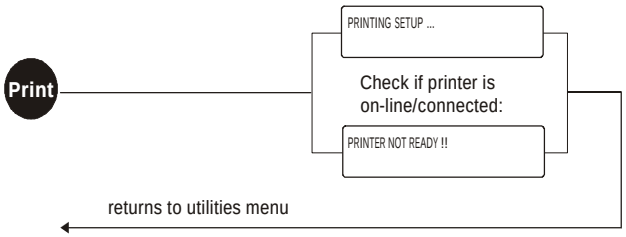
The Utilities? mode has the following options:



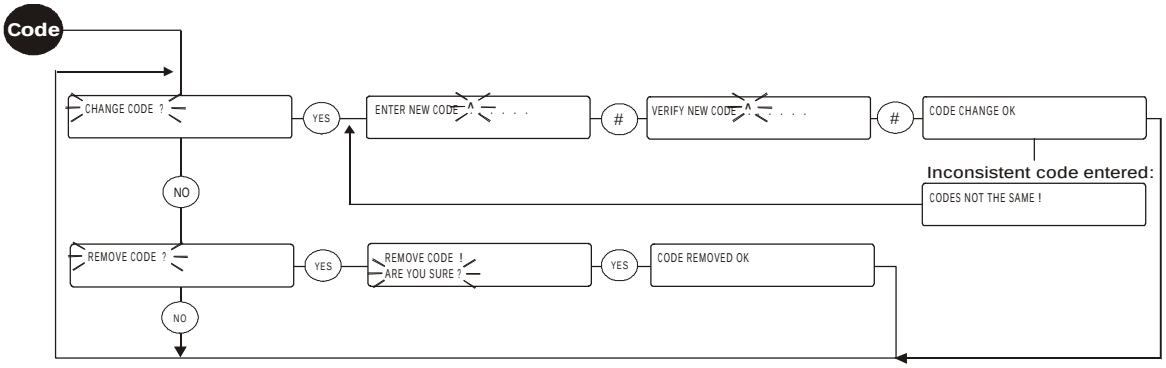
- **Serial Port:** Use this option to configure the HHT's serial port for direct serial communications with other devices.



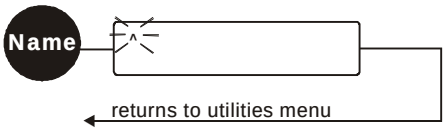
- **Print Setup:** Use this option to print out the current settings and parameters for the HHT. This includes: the serial number, software version, user name, serial port settings, backlight parameters and language setup. (See diagram below).



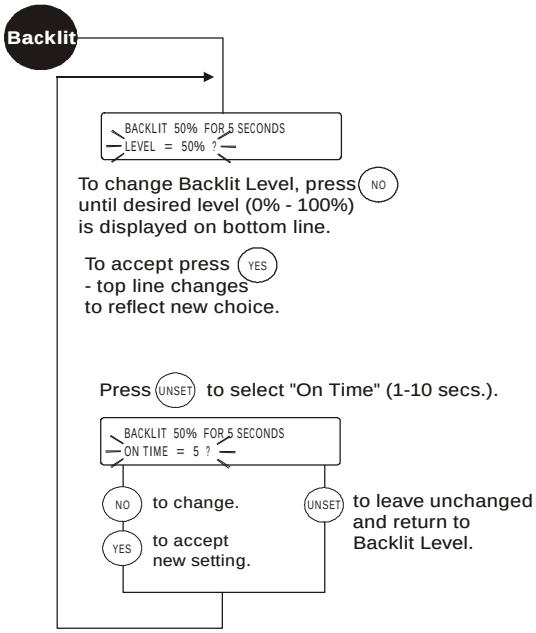
- **Code Setup:** Use this option to change or remove the passcode required to access the HHT main menu. (See diagram). The default code is 123456. You have three attempts to enter the correct code. After three failed attempts you will need to reload the default setup (this will overwrite any existing files).



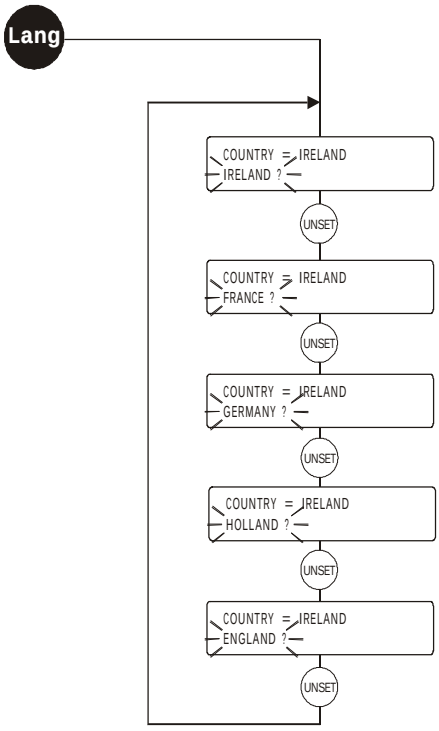
- **Name Change:** Use this option to change, enter or edit the user's company name and address. (See diagram below). You place the alphabetic card over the HHT keypad and select the required letters using the Shift key (ensure the Shift key is in the Up position before entering the next letter).



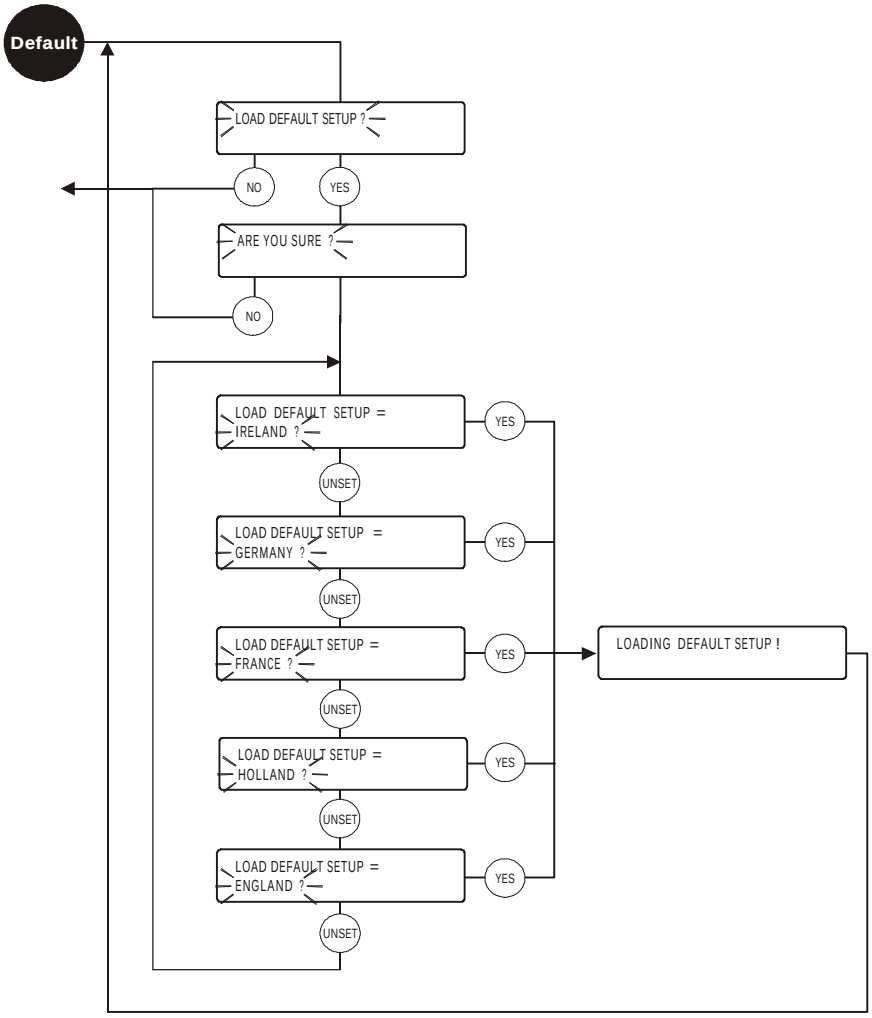
- **Backlit Setup:** Use this option to adjust the display backlight parameters. (See diagram below). Use the UNSET and PART keys to scroll between Level/On Time and YES/NO keys. On Time refers to the number of seconds the backlight will remain on for once a key has been pressed. Level refers to the intensity of the display backlight. Once the required settings are displayed on the top line, press Help to save and exit.



- **Language Setup:** Use this option to load default language for setup defined markets. (See diagram below).



- **Load Default:** Use this option to load the factory programmed default settings. (See diagram).



11 EUROPLEX UNIVERSAL INTERFACE CARD (EUIC)

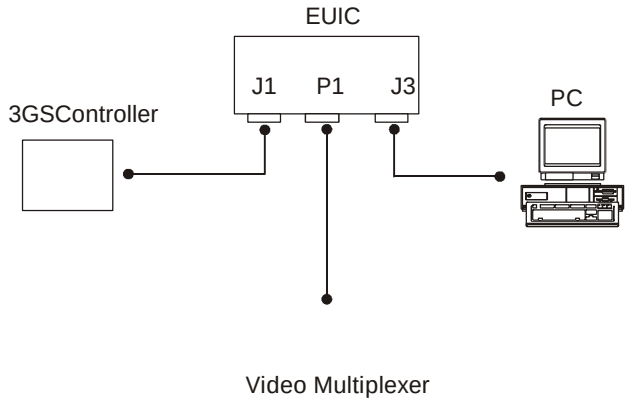
In this chapter

- EUIC Overview 11-1
- Connecting the EUIC to the 3GS Controller 11-2
- Connecting the EUIC to the PC 11-3
- Connecting the EUIC to the Video Multiplexer ... 11-4
- Hardware 11-5
- EUIC programming software 11-6
- Default Setup 11-7

EUIC OVERVIEW

The EUIC provides output mapping functions for the 3GS Controller. The mapping feature is generally used for controlling CCTV video multiplexers and other security peripherals. The board is microcontroller based and has three serial communication ports.

One serial port communicates with the 3GS Controller (the panel port). The second and third serial ports are called the host serial ports. The second port is used to send a command message to an attached video multiplexer and the third port is used to program the EUIC via a PC.



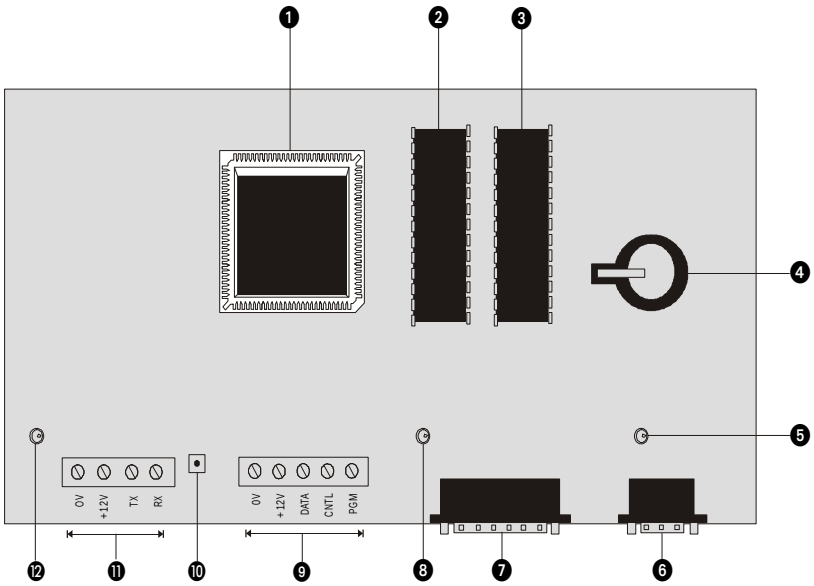
The general set-up of a 3GS integrated security and access system with the EUIC is shown in the diagram opposite. The EUIC polls the 3GS system to determine the states of the zones and doors and the outputs on the system. When a zone, door or output state changes (an event occurs) a command string code is then executed.

A command string can cause two types of actions:

1 Control devices connected to the 3GS System.

2 Send a command message to the video multiplexer.

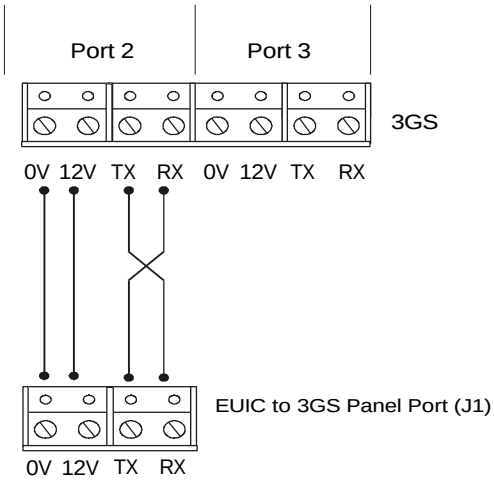
The EUIC command string code is a simple text based language. The PC port is used to configure and programme the EUIC. A text based protocol is used to communicate settings and commands to the EUIC. A programming application for Windows 95 / 98 is provided which simplifies programming further by providing a windows based graphical user interface (GUI).



① Microprocessor
② Eprom
③ Ram
④ Battery
⑤ PC Port 2 (J3)
⑥ LED 3
⑦ Video Port 1 (P1)
⑧ LED 2
⑨ Default Link (J2)
⑩ Reset Switch
⑪ Panel Port (J1)

Connecting the EUIC to the 3GS Controller

The EUIC requires a 12V DC supply cable capable of providing 200mA. This can be supplied by the power pins on the 3GS ports 2 or 3, if no other peripherals are attached. Otherwise the power must be supplied from the main system power supply.



To connect the EUIC to the 3GS Controller

1. Connect the serial cable to the panel port on the EUIC using the push-on connector.
2. Select the 3GS port you want to use and set it up to the same settings as those chosen for the panel port on the EUIC. The EUIC Tx connection is wired to the 3GS Rx connection and the EUIC Rx connection is wired to the 3GS Tx connection. It is suggested to use a baud rate of 19200 as this provides the best performance for the system.
3. Attach the serial cable to the 3GS port.
4. On power-up, LED 1 on the EUIC should flash briefly along with LED 3.

   If there are no command lines present LED 1 will go out and LED 3 will remain on.

   If there are any command lines present in the EUIC, i.e. program strings, LED 1 will continue to flash. This indicates successful communications with the 3GS. If communication with the 3GS was unsuccessful, LED 1 will go out.

CONNECTING THE EUIC TO THE PC

To connect the EUIC to the PC

1. Use a null modem cable with a 9 way female termination on the EUIC end.
2. Insert the female end into Port 2 (J3) on the EUIC.
3. Ensure that the correct PC comms port is selected and its communications settings match that of the EUIC host port settings. Otherwise no communications will take place between the PC and EUIC. **[See page 11-7: *Default Setup*]**.
4. Start the EUIC programming software package and modify the PC communications settings to match that of the EUIC host port settings.

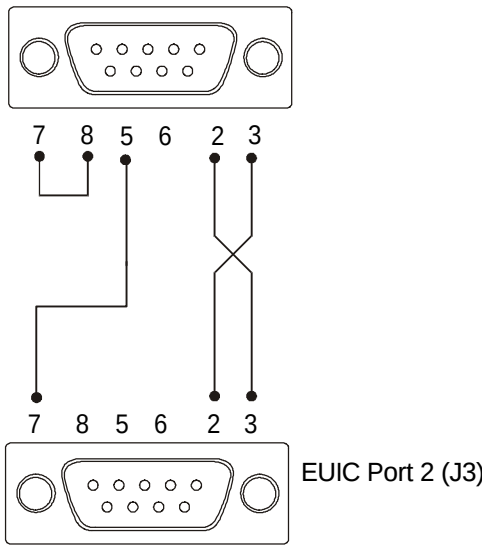
   It is suggested that these settings are left at the default settings unless they have to be changed for interfacing with a video multiplexer.
5. Open the comms port on the PC and press the Reset button on the EUIC.

   The software version and current settings are displayed on the PC if communications are properly set up.
6. If unreadable text or no text is displayed then either the comms port is not correctly connected or the settings are incorrect. In this case, check the connections and retry.

   If this does not resolve the problems then connect the Default Link. This resets the EUIC comms settings for all the ports to the default settings.

   Alternately try all the different PC communications settings until the correct setting for the EUIC is chosen.

PC Port Connection

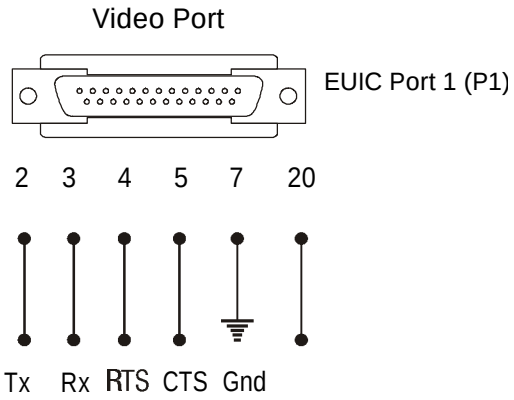


EUIC Port 2 (J3)

CONNECTING THE EUIC TO THE VIDEO MULTIPLEXER

To connect the EUIC to the video multiplexer

1. Use a cable as specified in the video multiplexer manual with a 25 way female termination on the EUIC end.
2. Insert the female end into port 1(P1) on the EUIC.
3. Start the EUIC programming software package.
4. Open the comms port on the PC.
5. Ensure that the communications settings of the EUIC host port match the settings specified for the video multiplexer – otherwise no communications will take place between the EUIC and the video multiplexer. Remember to change the PC settings to match these.
6. Select Video Options in the Communications menu and choose the option for the multiplexer connected to port 1.
7. Press Reset on the EUIC as requested, to save the video selection to the battery backed memory.
8. The EUIC software version and current settings are displayed on the PC if communications are properly setup.



9. When an alarm command is executed by the EUIC it will transmit the set alarm channel command using the appropriate protocol to port 1. This can be observed by a brief flash on LED 2.
10. When the event is false and the alarm has to be cleared again the EUIC will transmit the clear alarm channel. These transmissions will activate and clear the alarm channels on the video multiplexer. If this is not the case then it is likely that either the comms port is not correctly connected or the settings are incorrect. Check the connections and retry.
11. If this does not resolve the problem then you can connect the Default Link, to reset the EUIC comms settings for all the ports to the default settings. **[See page 11-7: *Default Setup*]**.

    Alternately try all the different PC communications settings until the correct setting for the EUIC is chosen.

HARDWARE

This section describes the main hardware features of the EUIC.

The unit requires 12V DC @ 200 mA to operate. The command string code and the serial port set-up are saved in non-volatile memory (i.e. battery backed-up RAM). A reset switch (SW1) is provided to reset the unit at any time.

Panel port

This is the standard Europlex communication port consisting of a 4-way terminal block. The four connections are 0V, 12V, and Tx and Rx. This connection supplies the power for the EUIC.

The port can be set-up as follows:

- **baud rate:** 1200, 2400, 4800, 9600 or **19200**
- **parity:** even, odd or **none**
- **data bits:** 7 or **8**
- **stop bits: 1** or 2.

Note *Bolded text is the default settings.*

LED 1 on this port will flash during communication with the alarm system. It is recommended to use the maximum speed setting to optimise system performance.

Host port

The host port consists of port 1 (i.e. the video multiplexer port) and port 2 (the PC port). That is, both port 1 and port 2 share the same communication set-up. This port can be set up as follows:

- **baud rate:** 1200, 2400, 4800, **9600** or 19200
- **parity:** even, odd or **none**
- **data bits:** 7 or **8** data bits
- **stop bits:** 1 or **2**

This has to be set to the default setting of the video multiplexer.

Port 1 (P1 - Video Multiplexer port)

This port consists of a 25-way male D-type connector. RS232 signal levels are used. Tx data (pin 2), Rx data (pin 3), 0v (pin 7) are used. LED 2 on this port will flash during communication on the port. Flow control is provided, so the RTS (pin 4) must be connected to CTS (pin 5) if no flow control is provided by the video multiplexer system.

Port 2 (J3 - PC port)

This port consists of a 9-way female D-type connector. RS232 signal levels are used. Tx data (pin 3), Rx data (pin 2), 0v (pin 5) are used. LED 3 on this port will be on to indicate that this port is operating. No flow control is provided.

Default link (J2)

This is 5-way terminal block header (i.e. the terminal block is not supplied). On power up of the unit or following a reset, the PGM pin is checked. If PGM is connected to 12V then the EUIC will load the default serial port set-up, the link should be removed for normal operation.

Housing

The EUIC is supplied as a PCB only. The mounting holes and the size of the PCB are the same as the DM1200 (i.e. the EUIC will mount in the same fixings as the DM1200).

Serial cables

No serial cables are provided with the unit, but should be made up according to the details provided within this chapter.

Serial cables compatible with the video multiplexer system should be used on port 1.

If no flow control is provided on the video system then a null modem cable must be used.

A standard null modem cable can be used on port 2 for PC connection.

EUIC PROGRAMMING SOFTWARE

To install the software

1. The EUIC is supplied with a Windows 95/98 based programming application. It requires a PC with a 100MHz Pentium processor and 32M of RAM or better.
2. Insert the floppy disk provided and open the appropriate drive in Windows Explorer.
3. Double click on setup.exe to start the installation.
4. Follow the Installshield instructions for the selection of the destination directory and program options.
5. To start the application click on the Start button, select the Programs folder and click on Euic_Programmer.
6. To get information on all the EUIC hardware and programming features select the Help option on the main program window.

Hyper Terminal

If Hyper Terminal is used for programming the EUIC then the suggested settings in default mode are as follows.

Phone Number

Direct to Com Port 1

Bits per second 9600

Parity none

Stop bits 2

Flow control none.

Settings Menu

Terminal keys

Emulator auto detect.

Back scroll buffer lines.

ASCII Settings sending

Send line ends with line feeds

Echo typed characters locally.

ASCII Settings receiving

Append line feed to incoming line ends.

Force incoming data to 7 bit ascii.

Wrap lines that exceed terminal width.

DEFAULT SET-UP

Setup details

This section describes the default set-up of the communication ports. This is the set-up of the EUIC following a default set-up load as described in the hardware section of this chapter. The command string code is not cleared on a default set-up load.

Panel port

The default panel port settings are as follows.

- **baud:** 19200
- **parity:** none
- **data bits:** 8
- **stop bits:** 1
- **panel address:** 1

Ensure that the 3GS port settings match these so that communications between the 3GS and EUIC can take place.

Host port

The Default host port settings are as follows.

- **baud:** 9600
- **parity:** none
- **databits:** 8
- **stopbits:** 2

Ensure that the PC comms port settings match these so that communications between the PC and EUIC can take place.

Since these settings are also used for the video multiplexer communications (if applicable) they must match the video settings as specified in the video multiplexer users manual.

12 DM1200 DIGITAL COMMUNICATOR / MODEM

In this chapter

- DM1200 Overview..... 12-1
  - digital communicator operation
  - modem operation
- DM1200 Installation 12-2
- DM1200 Programming 12-8

DM1200 OVERVIEW

The DM1200 is a combined 16-channel digital communicator and 1200 baud modem.

- The **digital communicator** monitors the 3GS controller and reports alarm activity to a central station(s).
- The **modem** communicates with a remote printer or PC running software such as Eurodial (monitoring), Panelman (maintenance) or 3GS+ (access control).

The unit can be connected to one of the 3GS serial ports (default = port 2) and its communication parameters may be programmed from the 3GS keypad. For connection details see the 3GS Communications section.

Digital Communicator Operation

The digital communicator monitors the 3GS control line (CTRL) to determine the state of the system outputs.

When programming the DM1200, the engineer maps the 3GS outputs to the DM1200's channels, which can number up to 16 in fast format or 8 in slow format.

If an output changes state and the delay timer has timed out, the DM1200 seizes the phone line (disconnecting any other apparatus connected) and dials a pre-programmed number.

The appropriate signals are sent to the alarm central station receiver, indicating the type of alarm activation. The DM1200 will disconnect and may dial another central station and repeat the process if so programmed.

Upon contacting the central station, the DM1200 waits for a handshake signal from the central station receiver. During this period the unit transmits a "comfort" tone every two seconds.

Upon receiving the fast format handshake, it transmits the account code associated with the dialled telephone number and the channel information in fast format.

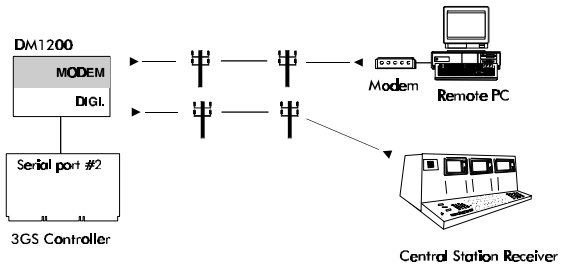
When the acknowledge signal (kissoff) is received, the DM1200 releases the line. If the receiver sends a slow format handshake, the DM1200 will report in slow format. If the DM1200 is unable to communicate with the alarm central station receiver, it releases the line and re-dials. It will dial a secondary receiver number if programmed to do so. The DM1200 can also be programmed to send alarm information in SIA and CONTACT-1D formats (version 3.1 or greater).

Modem Operation

When the DM1200 is programmed to report to a remote PC it reads the value stored in the panel's modem dial variable every two seconds.

This variable is used by the 3GS to initiate a call to a remote PC and may be set by a time command or via a literal. If this variable is set to 1 and there is log information to report, the DM1200 dials the pre-programmed primary remote phone number and establishes a connection with the remote PC. The DM1200 disconnects the line when the remote PC hangs up its modem.

Note *Note: If the DM1200 detects a channel activating during remote communication (with the PC or printer), it aborts modem communication and dials the alarm central station.*

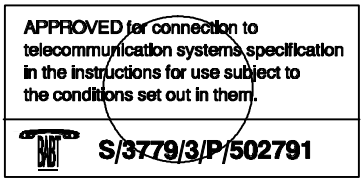


If a remote PC dials in, the DM1200 will pick up the line after the pre-programmed number of rings have been detected. It will establish a "connect" with the remote modem. At this point it allows FULL communications with the 3GS controller if UNRESTRICTED access is programmed.

If CALLBACK mode is programmed, on receipt of an incoming call the DM1200 answers, hangs up, and then calls back the number.

The DM1200 also allows communication to a remote printer. If the mode dial variable is set and there is log information to report, it dials the pre-programmed number and dumps to the remote printer.

DM1200 INSTALLATION



BABT Approval Compliance

The DM1200 has been approved for use of the following facilities:

Loop Connect, Auto-calling, Auto-dialling, MF dialling, Automatic repeat attempts, Series connection, Operation in the absence of proceed indication, Auto-clear from call-originating end. Any other usage will invalidate the approval of the apparatus if as a result it then ceases to conform to the standards against which the approval was granted. The DM1200 is suitable for connection to any BT PSTN circuit with loop-disconnect or multi-frequency dialling.

Series Connection - The DM1200 has a Series Equivalent Number (SEN) of 0.3. The SEN represents the portion of the maximum allowable impairment which is taken up by a series apparatus. The DM1200 has a nominal insertion loss of 0.025dB, and a nominal series resistance value of 195 milliohms.

Note *To avoid occasional difficulties in making calls from other apparatus connected to the telephone network via more than one series apparatus, or problems in telephone conversation between both parties, the total of SEN values of all series apparatus should not approach or exceed 1.0. If such difficulties are experienced, the user should consult the accredited service engineer and NOT the telephone company. An associated telephone may only be connected via the series connection provided i.e. it should be connected to the C and D terminals on theDM1200, NOT in parallel with the A and B connections.*

Connection of the DM1200 to a main apparatus that requires shunt wire connection is not permitted. The DM1200 may cause bell tinkle. This product is BABT approved and should carry the BABT approval label.

Power Supply

The DM1200 operates using 12Vdc with a current consumption in a quiescent state of 50mA and a maximum current requirement of 100mA when active. Use the connection directly from the PSU inside the cabinet. Do not use the +12V from the 3GS PCB.

The 12 volt supply is monitored and a low-battery signal is generated if the supply drops to 10.5V +/- 0.5V for longer that 15 seconds.

Should the 12Vdc required for operation be taken from another power source the warning below should be adhered to.

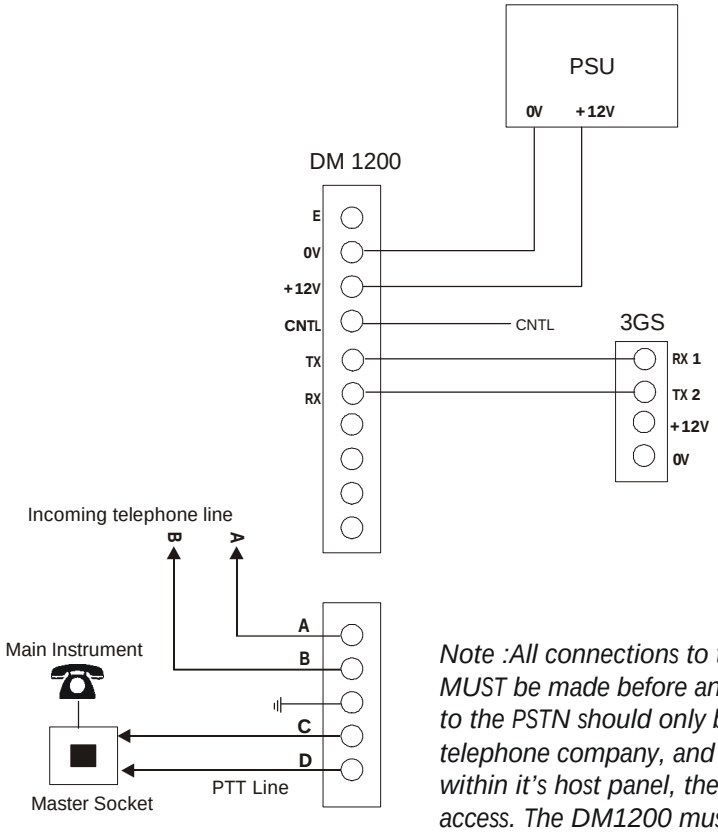
WARNING: The DM1200 is intended for use with a low-voltage supply of 12Volts D.C.(typically 1A psu) which is normally derived from the 3GS PSU as shown in the diagram opposite. The DM1200 has no user protection against excessive supply voltages, and users should ensure that any power supply or other equipment used in conjunction with the DM1200 complies with the relevant legal safety requirements when properly assembled, installed, and maintained, and used correctly.

The DM1200 should be located and secured in its designated position within the host panel and suitably isolated (by stand-off bushes) from the host panel main PCB and from any mains supply or excessive voltage source, by a minimum clearance distance of 10mm.

PTT Line connection to PSTN

The DM1200 is connected to the PSTN at terminals A & B (see diagram overleaf). A connection to Earth must also be made. If it is required to connect another device to the line (e.g. telephone) it should be connected at C and D.

Diagram



Note :All connections to the host panel and the power supply MUST be made before any connection to the PSTN. Connection to the PSTN should only be made by an engineer authorised by the telephone company, and ONLY after the DM1200 has been installed within it's host panel, the cover of which must be fastened to prevent access. The DM1200 must always be installed in it's host panel. Failure to install the DM1200 in accordance with these instructions will invalidate any approval given to it.

Connecting a local printer

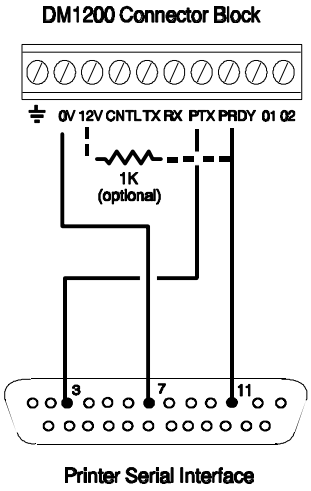
A local serial printer can be connected to the DM1200. Data is output to the printer at TTL levels from the DM1200 in the following format:

Baud Rate: 1200 or 300

Parity: EVEN

Stop Bits: 1

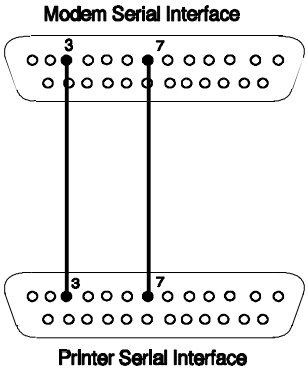
Connect the printer using serial cable as shown in diagram below.



Important: The maximum distance between the DM1200 and the printer should not exceed 25 metres.

Remote Printer

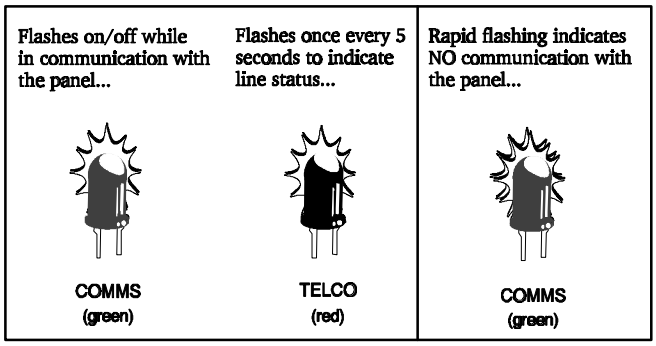
Connect the 25-way modem interface to the printer interface as shown in diagram below.



DM1200 LEDs

The LEDs will indicate the operational status of the DM1200 (see diagram below).

If the DM1200 does not operate as expected re-check the wiring connections and your programmed configuration.



Programming the DM1200

YES - Used to enter a menu/option or to select an option.

NO - Used to scroll forward through menu options, i.e. refusing them, and to toggle between certain options.

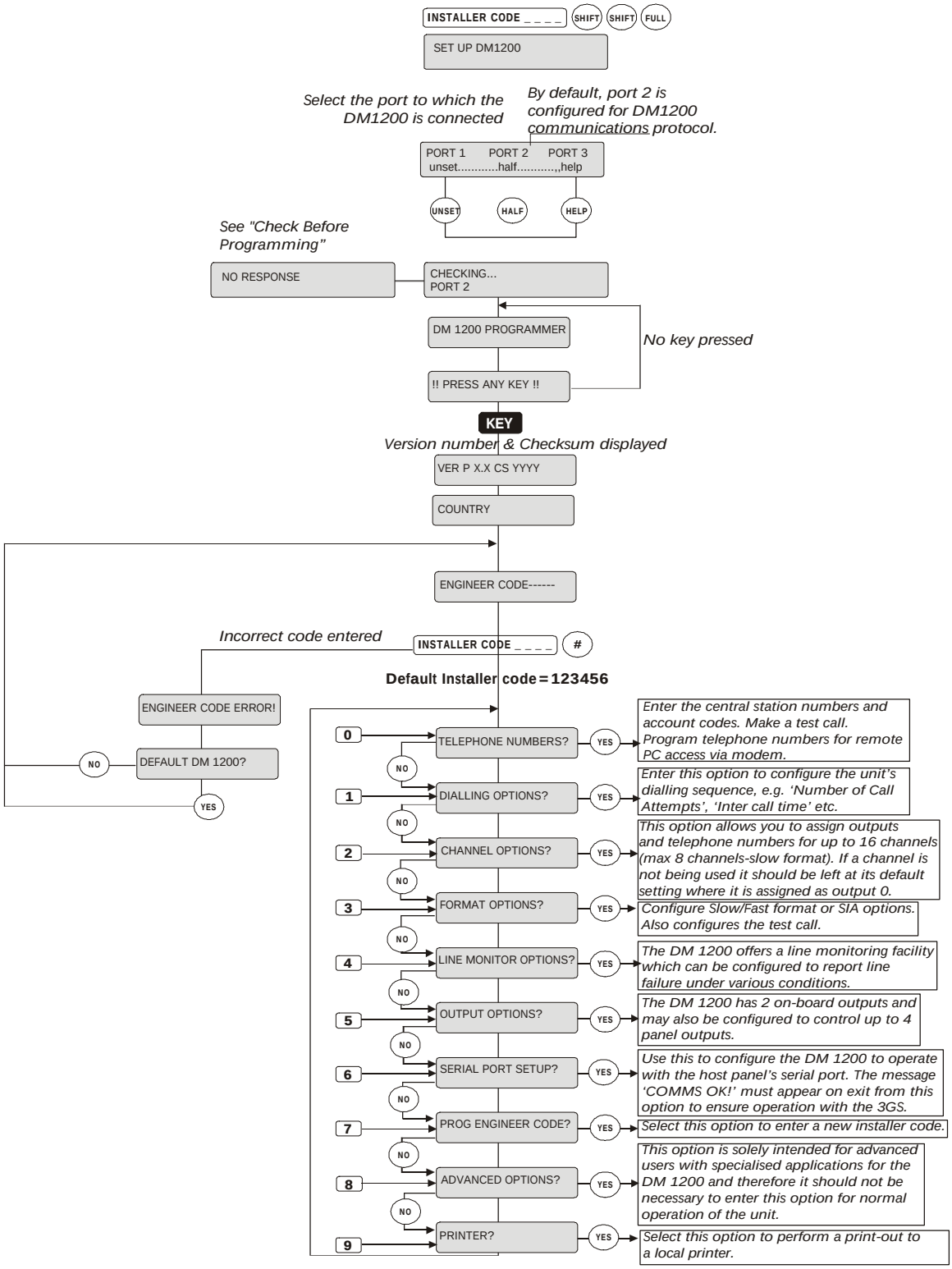
QUIT - Used to exit from an option to sub-menu or from sub-menu to root menu.

NEXT - Moves cursor to the left or scrolls the current menu forward.

PREVIOUS - Moves cursor to the right or scrolls the current menu back.

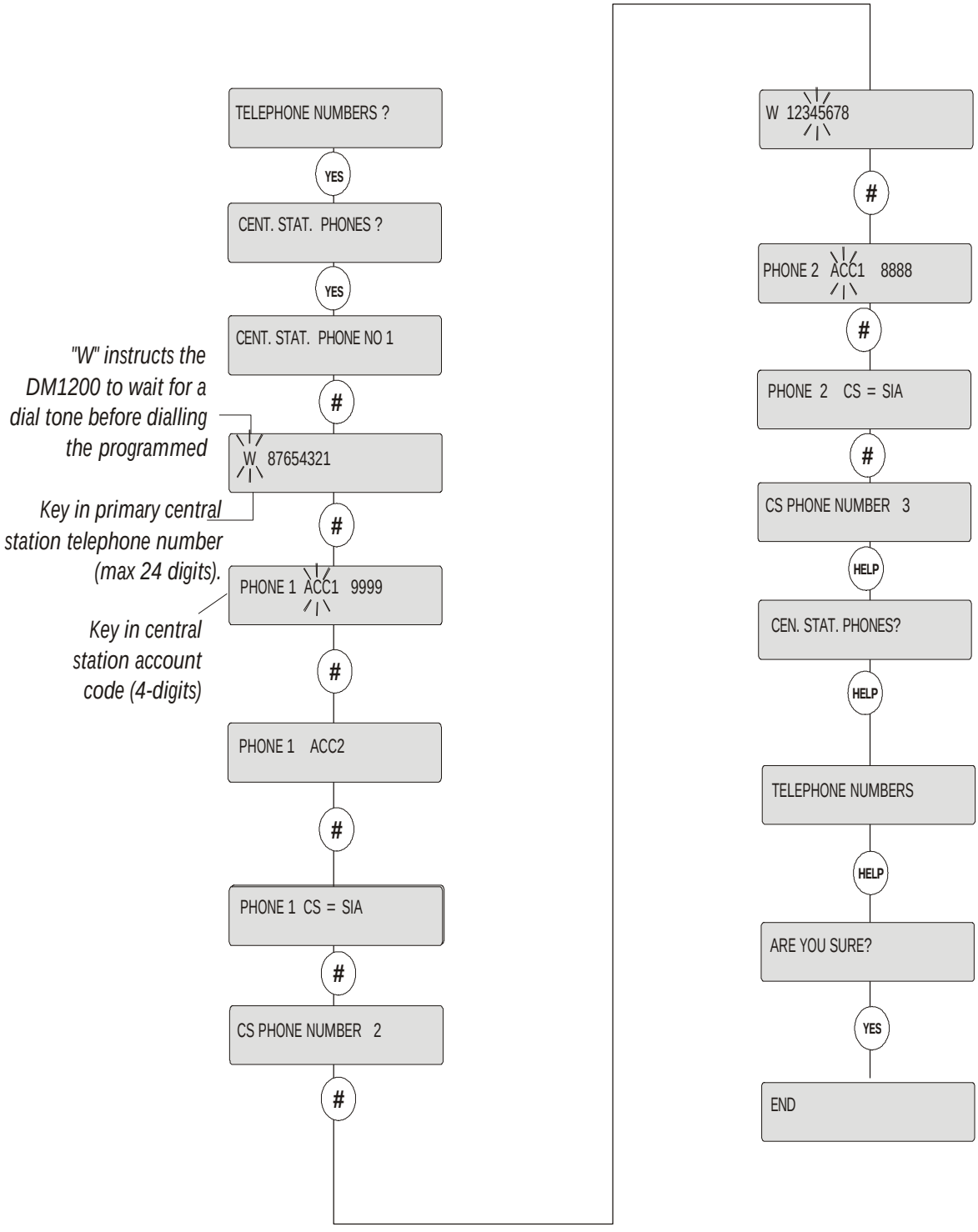
ENTER - Used to accept current/displayed data.

SHIFT/DELETE- Used to select keypad characters. Also used to delete characters if held down for more than 1 second.



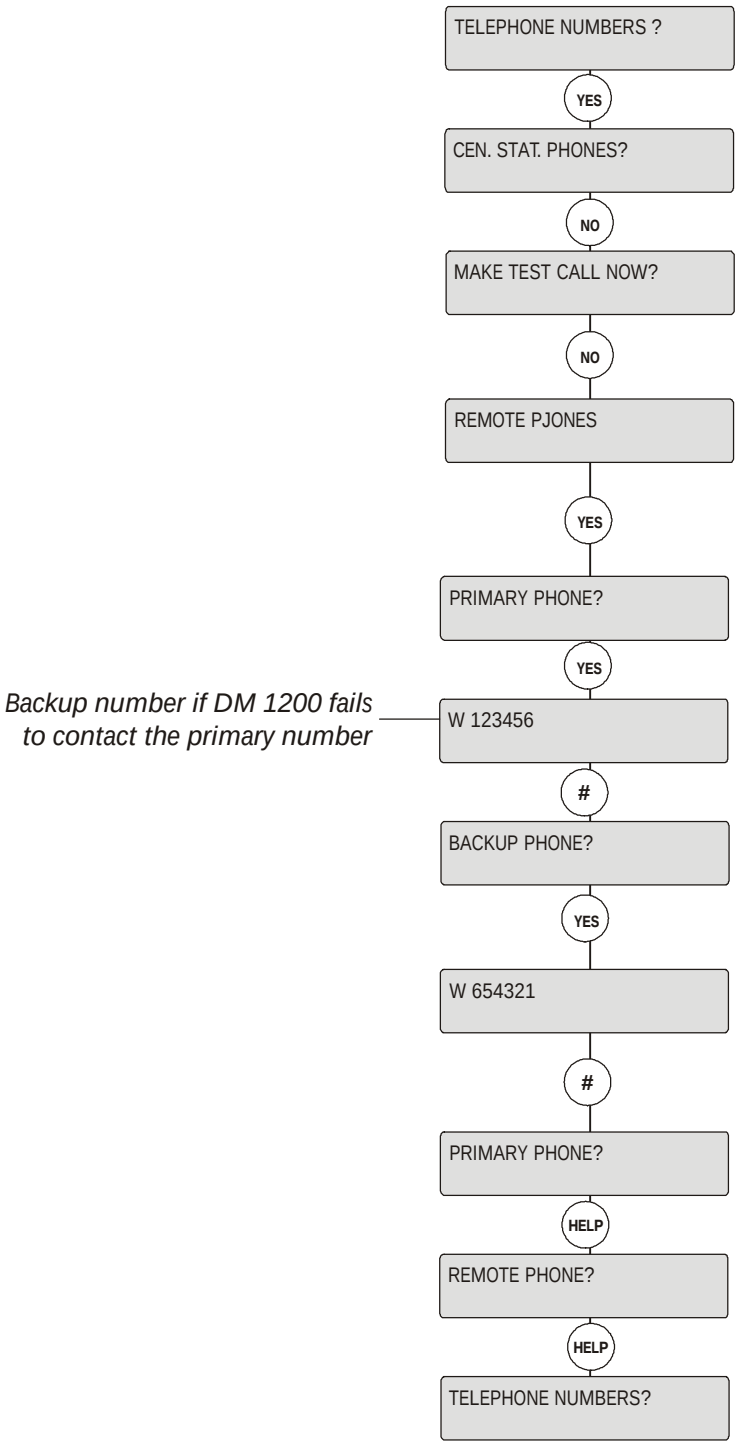
Quick Programming for SIA Central Station

In this example the DM1200 is set up to report to a SIA central station.



Quick Programming for Modem Operation

To program the DM1200 to communicate with a remote PC, simply program two phone numbers in the remote phones option.



DM1200 PROGRAMMING

Before programming...

Before attempting to program the DM1200, note the following:

- Ensure the DM1200 Eprom label is version 2.2 or greater. Older versions are *not* compatible with the 3GS system.
- For SIA reporting ensure the DM1200 is version 3.0 or greater.
- Ensure that the DM1200 connections to the 3GS port are correct - as shown in the Communications section.
- If possible, connect the DM1200 to Port 2 of the Controller, as port 2 defaults to the DM1200 communications protocol. If another port is used, select SET DATA FORMAT and set the communication protocol as follows:
  - Baud rate: 1200
  - Parity, data, stop bit: E,8,1
  - Printer: No
  - Access control: 31
  - Log filter: 32767
  - Access filter: 255
  - Dial mode: 0

Programming sequence - checklist

To program the DM1200 to report as a "digi" and a modem, adhere to the following:

1 The 3GS Controller must be configured to operate in LOCAL communications mode (Dial Mode:0). This allows the DM1200 to poll the 3GS Controller for output data, log events etc. **[*See page 8-58: Set Data Format*]**.

2 If you are using Eurodial monitoring software, then LOCAL communications mode (step 1) must be set in two stages.

3 Program the “digi” telephone numbers, account codes and reporting sequence. See below.

4 Program the MODEM primary and backup telephone numbers. See below.

Programming the DM1200

The flow chart examples on the following pages show how to program a basic set up for the DM1200.

Note that the DM1200 settings shown in these examples are based on Irish telecom default settings. The settings you see will depend on the country default selected. To change these settings and configure the DM1200 successfully, it is vital to be familiar with the programming techniques and options which are explained in the DM1200 User’s Guide. There are however some inconsistencies between the key functions shown in the manual and the 3GS keypad.

These are outlined in the table below.

DM1200 User Guide	3GS keypad	Key Function
	EQUIVALENT KEY	
QUIT	HELP	*Exit from an option to a sub-menu.*
NEXT >	UNSET +	*Moves the cursor to the left or scrolls forward through a menu.*
PREVIOUS <	PART -	*Moves the cursor to the right or scrolls back through a menu.*
YES	YES	*To Enter a menu option or to select an option.*
NO	NO	*To scroll forward through menus, i.e. rejecting options or to toggle between certain options.*
# ENTER	ENTER	*The Enter key is used to accept data.*
SHIFT / DELETE	SHIFT	*The Shift / Delete key has a dual function:* *To select alphanumeric keypad characters by rotating the cursor to the required position (see "Typing Text").* *To delete characters if held pressed down for more than 1 second.*

Digital communicator reporting

The DM1200 can be programmed to dial 4 separate CS phone numbers, with 2 accounts per number. The unit attempts to contact telephone number 1 and if unsuccessful then calls telephone number 2 etc.

Note *The two accounts per number facility is available to split system software only.*

Each line is then set to one of the following formats: SIA, CONTACT ID, DUAL, or SLOW.The Contact ID format is a high-speed protocol using DTMF tones, giving block and zone information. For a more complete explanation of Dual and Slow formats, please see the DM1200 User’s Guide.

SIA reporting

The SIA protocol will transmit alarm events as SIA messages. The system must be configured for SIA Reporting using the Setup SIA menu. **[*See page 8-51:***

Setup SIA for a description of this menu and a list of SIA codes].

- **Max. SIA Messages** Sets the maximum number of SIA messages to be sent per call. **[*See page 8-51: Setup SIA*].**
- **Single. Acc/Call** Selects whether one or multiple account codes can be transmitted on one call.
- **2-Digit Event Numbers** In the case of a system of 100-plus zones, this option should be set to transmit 4-digit event numbers. This option is receiver-dependant.
- **Block Modifier** This is enabled if block software is being used.
- **ASCII Text** Enables the sending of text with event information.

When enabled, the Wait Command will allow the DM1200 the time to gather more event information, while still connected to the CS.

Note *The above options are dependant on the capabilities of the CS receiver.*

Important *SIA Reporting is available on Version 3.0 of the Europlex DM1200 only.*

Modem communication

The diagram overleaf shows how to program for modem communication between the DM1200 and a remote PC or printer.

After entering the DM1200 default code press YES to "TELEPHONE NUMBERS" and press NO to "CENT STAT NUMBERS?". Press NO to the test call display and select "REMOTE PHONES?" Type in primary and back up numbers. The examples shown are:

Primary: 98765432

Back Up: 23456789

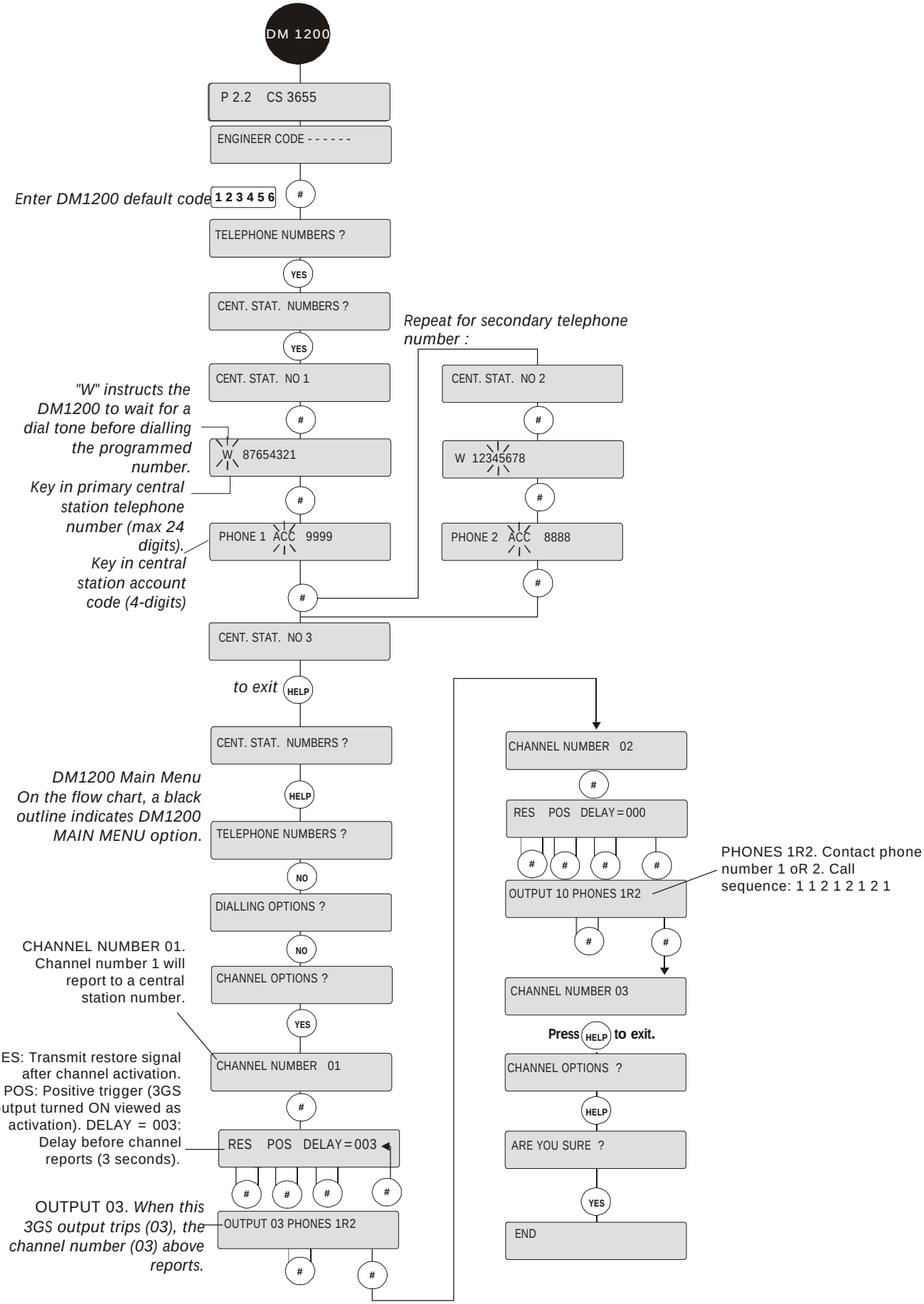
If the DM1200 default settings (shown below) are those required by the communications software in use, exit by pressing HELP twice. When the display prompts "ARE YOU SURE?" press the YES key.

DM1200 Modem Default Settings

If necessary, Parity and Baud Rate may be changed in DM1200 menu "Serial Set Up". Dial Access may be changed in the DM1200 menu "Telephone Numbers - Remote Phone Options". Data bits must be set at 8.

- Parity:Even
- Baud Rate: 1200
- Data Bits: 8
- Dial Access:Unrestricted

Diagram


DM 1200
P 2.2 CS 3655
ENGINEER CODE - - - - - -
Enter DM1200 default code
1 2 3 4 5 6
#
TELEPHONE NUMBERS ?
YES
CENT. STAT. NUMBERS ?
YES
Repeat for secondary telephone number :
CENT. STAT. NO 1
"W" instructs the DM1200 to wait for a dial tone before dialling the programmed number.
Key in primary central station telephone number (max 24 digits).
W 87654321
PHONE 1 ACC 9999
Key in central station account code (4-digits)
CENT. STAT. NO 2
W 12345678
PHONE 2 ACC 8888
CENT. STAT. NO 3
to exit
HELP
CENT. STAT. NUMBERS ?
DM1200 Main Menu
On the flow chart, a black outline indicates DM1200 MAIN MENU option.
TELEPHONE NUMBERS ?
NO
DIALLING OPTIONS ?
NO
CHANNEL NUMBER 01.
Channel number 1 will report to a central station number.
CHANNEL OPTIONS ?
YES
CHANNEL NUMBER 01
RES: Transmit restore signal after channel activation.
POS: Positive trigger (3GS output turned ON viewed as activation). DELAY = 003: Delay before channel reports (3 seconds).
RES POS DELAY=003
OUTPUT 03. When this 3GS output trips (03), the channel number (03) above reports.
OUTPUT 03 PHONES 1R2
CHANNEL NUMBER 02
RES POS DELAY=000
PHONES 1R2. Contact phone number 1 oR 2. Call sequence: 1 1 2 1 2 1 2 1
OUTPUT 10 PHONES 1R2
CHANNEL NUMBER 03
Press HELP to exit.
CHANNEL OPTIONS ?
ARE YOU SURE ?
END

13 INTELLIBELL

In this chapter

- Intellibell Overview 13-1
- IntelliBell connection diagram 13-2
- IntelliBell programming..... 13-3
- Self-activating bell 13-5

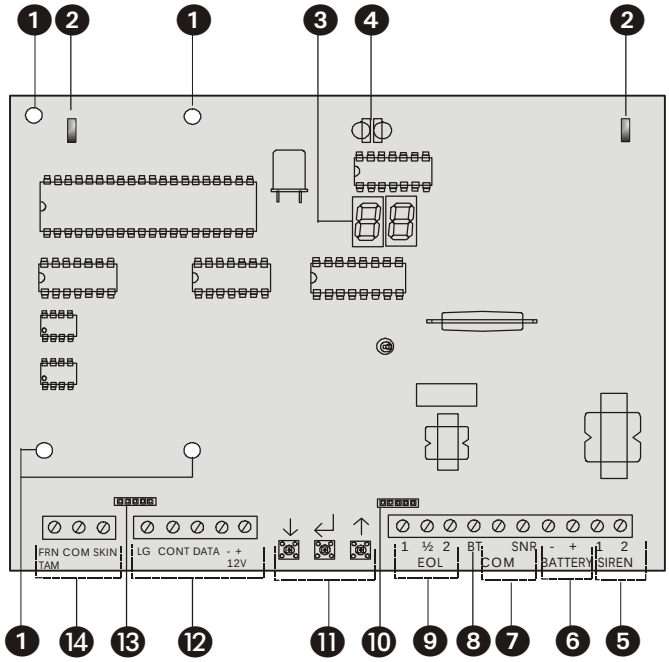
INTELLIBELL OVERVIEW

Function

The IntelliBell (IB) has been specifically developed by Europlex to interface with its 3GS controller. The IB connects to the data line and monitors the state of the control line to determine the state of its outputs.

The unit activates its piezo sirens and/or strobe when certain pre-programmed panel outputs are triggered. A second model of the unit is available which incorporates a Voice Annunciator Board (VAB) and Speaker as an alternative to the sirens. A pre-recorded message is replayed on activation of the VAB.

The unit has one on-board zone and reports tamper alarms, self-test failures, detected foam ingress and drilling using this zone.



① **Voice annunciator board (VAB) mounting holes** - The Sounder facilitates speech replay via an optional add-on Voice Annunciator Board (VAB) and Speaker. The speaker replaces the piezo sirens and both it and the VAB are factory installed. The pre-recorded message is stored in memory.

② **Foam ingress detect receiver** - To protect against foam ingress, there are 2 infra-red optical beams on the board. If both beams are broken a tamper will be generated.

③ **Programming display - [See page 13-4: *Programming*].**

④ **Foam ingress detect transmitters** - Use with the foam ingress detect receivers.

⑤ **Sirens** - See wiring diagram overleaf.

⑥ **Battery** - See wiring diagram overleaf.

⑦ **Drill detect link** - See wiring diagram overleaf. The unit has a drilling detect feature whereby the presence of drilling is reported to the panel. This feature may be enabled by removing a "detect" link and connecting a mass inertia sensor.

⑧ **Back tamper** - See wiring diagram overleaf.

⑨ **End-of-lines (EOLs)** - See wiring diagram overleaf

⑩ **Xenon tube and system active LED** - See wiring diagram overleaf.

⑪ **Programming keys**

Key Functions

key - to scroll back through a menu. to increase a numerical value.

key - to move to a menu option. to accept a numerical value.

key - to scroll forward through a menu. to decrease a numerical value.

Note: a horizontal bar indicates keys to be pressed simultaneously.

Press keys - to exit from a menu.

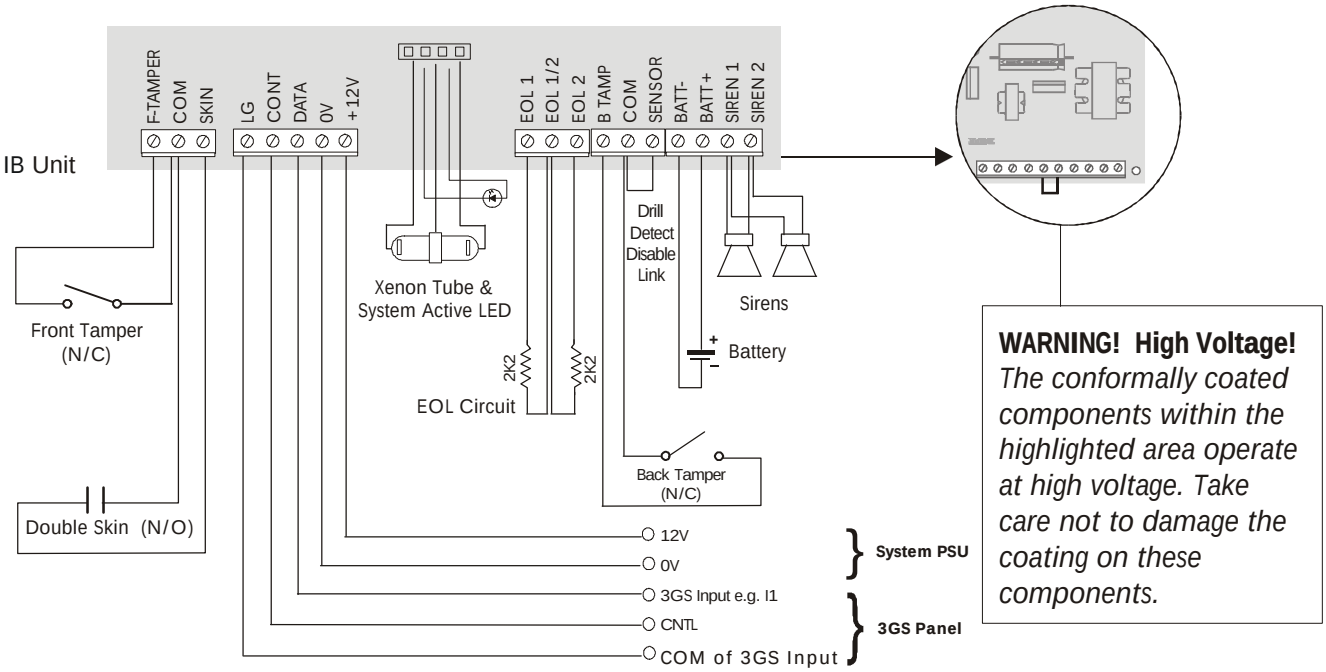
⑫ **Data BUS** - See wiring diagram overleaf. Feed all external cables (Data line, DC power, etc.) through the cable entry grommet in the cabinet. Connect Data, Control, and Ground to the IB as shown. Secondary power is supplied via a NiaCad battery pack. Connect the battery pack leads (red: batt+, black: batt-) after primary power has been applied. The "System Active" LED should blink to indicate the unit is functioning correctly.

Note *A maximum of 30m of alarm cable is recommended between 3GSController and IB. A higher specification cable is recommended for distances greater than 30m. LEM Ground should be connected to* **COM** *at the 3GS Controller.*

⑬ **VAB connector**

⑭ **Front tamper and skin tamper** - See wiring diagram overleaf. There are two lever tamper switches on the cabinet. If the double skin is punctured, a short between both skins activates a tamper. An activation of any tamper is reported to the panel using the on-board zone. Remove the lid tamper switch transit stop. Ensure that the tamper lever makes firm contact with the wall when the unit is mounted.

INTELLIBELL CONNECTION DIAGRAM



Programming

The IB may be programmed with or without the sounders silenced, either prior to installation or when on-line with a panel.

Prior to Installation

Connect 12Vdc and ensure that the front and back tamper switches remain closed, the skin tampers open, and the foam ingress detect beam uninterrupted. If it is required to keep the sounders silenced, the control line and LEM ground line must be connected also. Program the IB using the programming flowchart below and disconnect power when finished.

After Installation

If you wish to program the IB after installation, you should assign an output to the Program Enable Output in the *Outputs* menu. If this output is turned ON at the panel before programming can begin the IB will ignore any signal from the panel turning on sounder or strobe.

Default Settings

The factory default settings are shown below. Selecting reset (RS) from the main menu will restore these values. Note that when an option is set to 0 it is disabled.

Outputs	SO	2	Sounder
	ST	7	Strobe
	TE	0	Self Test
	PE	49	Program
Minutes	SP	15	Sounder ON
	BA	0	Battery Test

Both Sounder and strobe functions are enabled by default.

Event Reporting

The IB will report zone state changes as they occur. Literal Commands will decide what action to take. The IB will report the following local events on its zone:

① **Zone Tamper/Short**

- Back tamper is open
- Lid tamper is open
- Skin tamper is closed
- Drilling detected
- Foam ingress detected

② **Zone Open - due to self test**

- Strobe failure
- Sounder failure
- Battery failure

③ **Zone Discon**

- A loss of 12 Volt power supply
- A loss of control line

Bell Test

After any IB activation or a maintenance visit by an Installation Engineer, a Bell Test is recommended. This will activate the IB from the control panel for a short period of time.

Output Functions

There are four output functions available on the IB and they operate as follows:

① Sounder Output (SO) - On the control panel, output 2 is the external sounder output. Setting the Sounder Output (SO) function to 02 will cause the **IB**

sounder to activate when this panel output is triggered. The Sounder Output is set as 02 by default, but this maybe changed to any panel output if required.

② **Strobe Output (ST)** - On the control panel, output 7 is the internal sounder output. In the same manner as above, setting the Strobe Output (ST) to 07 will cause the strobe to activate when this panel output is triggered. The Strobe output will remain On until reset by the panel.

③ **Battery Test** - BA The unit will initiate a battery test after this programmed time (range 1-90 minutes). If the stand-by battery measures below 7.1 Vdc, a test failure is logged in the IB log. If set as 0, the test is disabled.

④ **Sounder Operation** - SO The sounder ON period may be programmed within the range of 1 to 90 minutes. It may also be disabled, whereby the optional Voice Annunciator Board (VAB) is driven by the alarm output.

Sounder Operation

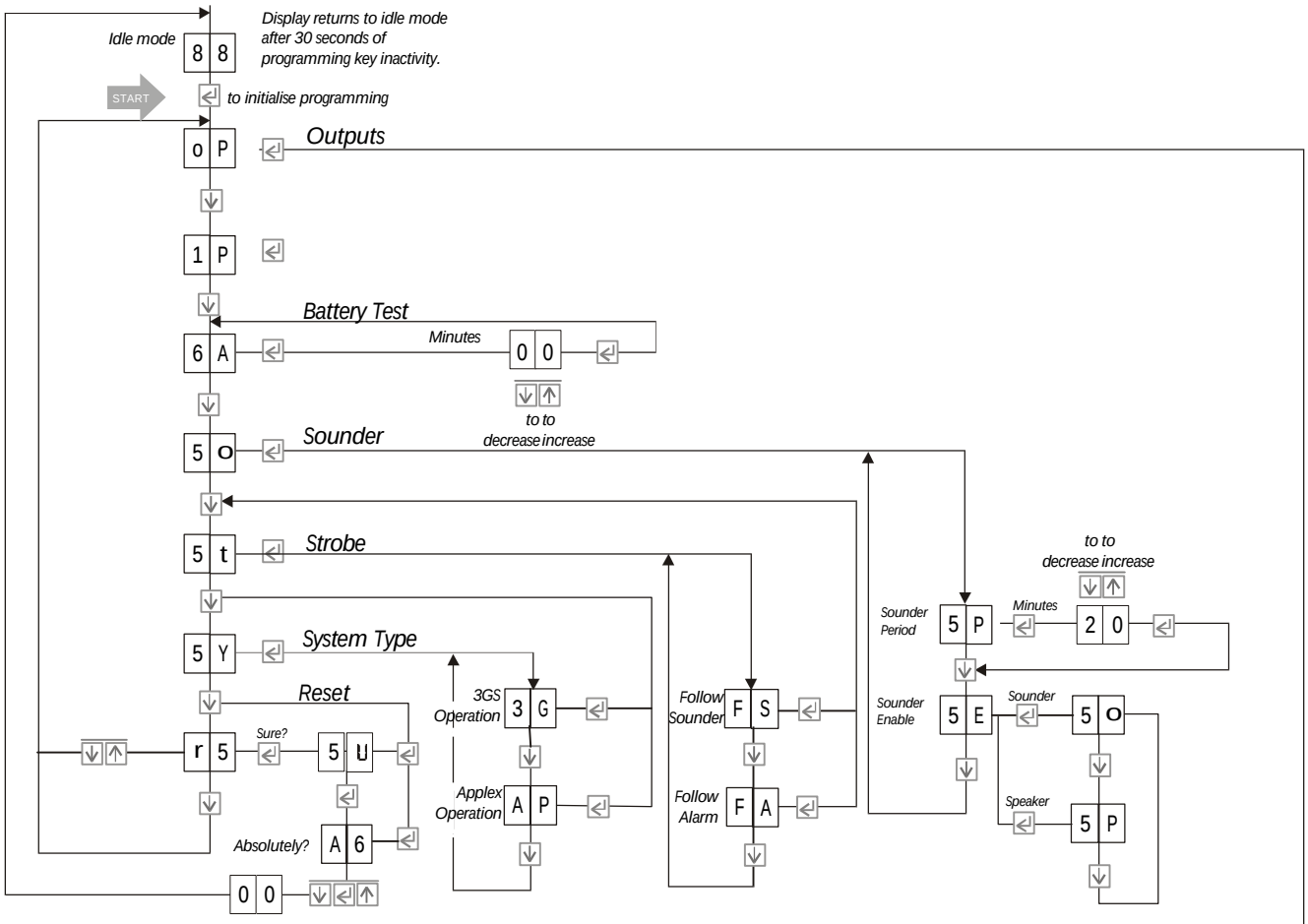
The Sounder is switched on either by the Sounder Output or by the IB in response to the 12 Volts supply (or the control line) becoming disconnected. When this happens the IB Sounder Timer starts.

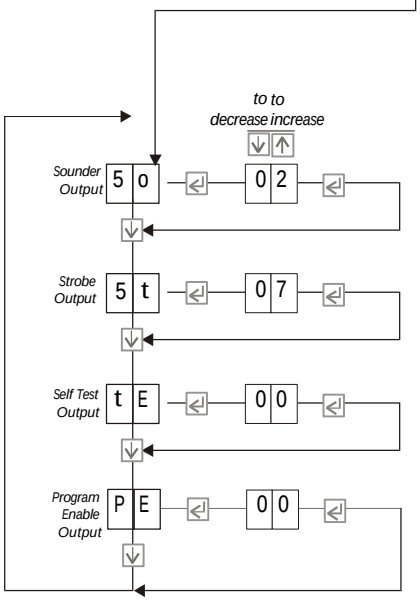
- Sounder - Sounder Output Operation
  When the Sounder is switched on by the Sounder Output, the Sounder stays on until the Sounder Output is switched off or the IB Sounder Timer expires or the Strobe Output goes off from the on state.
  If the Sounder Output is on switched again the Sounder will not sound. The only way the sounder will come on again is after the Strobe Output goes off from the on state.
- Sounder - 12V Disconnect Operation
  When the Sounder is switched on by the IB after a 12 Volts disconnect, it stays on until the IB Sounder Timer expires or the Strobe Output goes off from the on state. If the Sounder Timer expires, the IB goes into power-down mode until the power is reconnected. If the 12 Volts supply is disconnected again the Sounder will not sound.
  The only way the Sounder will come on again is if the Strobe Output goes off from the on state. Note that a 12V disconnect will cause the Sounder to sound even if the Sounder has already completed a Sounder operation for the sounder period.
  A 12 Volts disconnect is regarded as any voltage under 9.5 Volts and a 12 Volts reconnect is regarded as any voltage above 11.5 Volts. This means that if the voltage drops below 9.5 Volts for 5 seconds or more, then the IB will sound for the programmed period and go into powerdown mode until the power supply recovers to 12 Volts. The installer must ensure that when a power supply driving the IB has a mains failure, the resulting drop in supply voltage to the IB does not go below 10.5 Volts.

Note *Disabling the sounder without a VAB installed will configure the unit to operate without an audible alarm.*

INTELLIBELL PROGRAMMING

Programming Menus





Log Messages

The IB log records system events and may be viewed when programming

88 Press ↑

First event is then displayed (flashing)

CF = Data line control failure.

Press ↑ to clear and scroll through other events.

tA = Local tamper generated.

PS = Power supply failure.

bA = Battery self-test failure.

dr = Drilling Detected.

Strobe Operation - The Strobe Output switches on and switches off the Strobe. By default the IB option 'Strobe Follows Sounder' is cleared. When the 'Strobe Follows Sounder' option is set by the operator, the Strobe is controlled only by the Sounder Output.

Self Test Output - TE This output function controls the unit's self test operation. By default it is set to 0 and therefore disabled. When the TE output is set and triggered by the panel, the unit will execute three consecutive tests. The sounder, strobe and battery circuits are tested and if nothing is reported to the panel within 30 seconds, the engineer may conclude that the three circuits have passed their tests.

panel output is triggered. Likewise, the Strobe output will remain ON until reset by the panel.

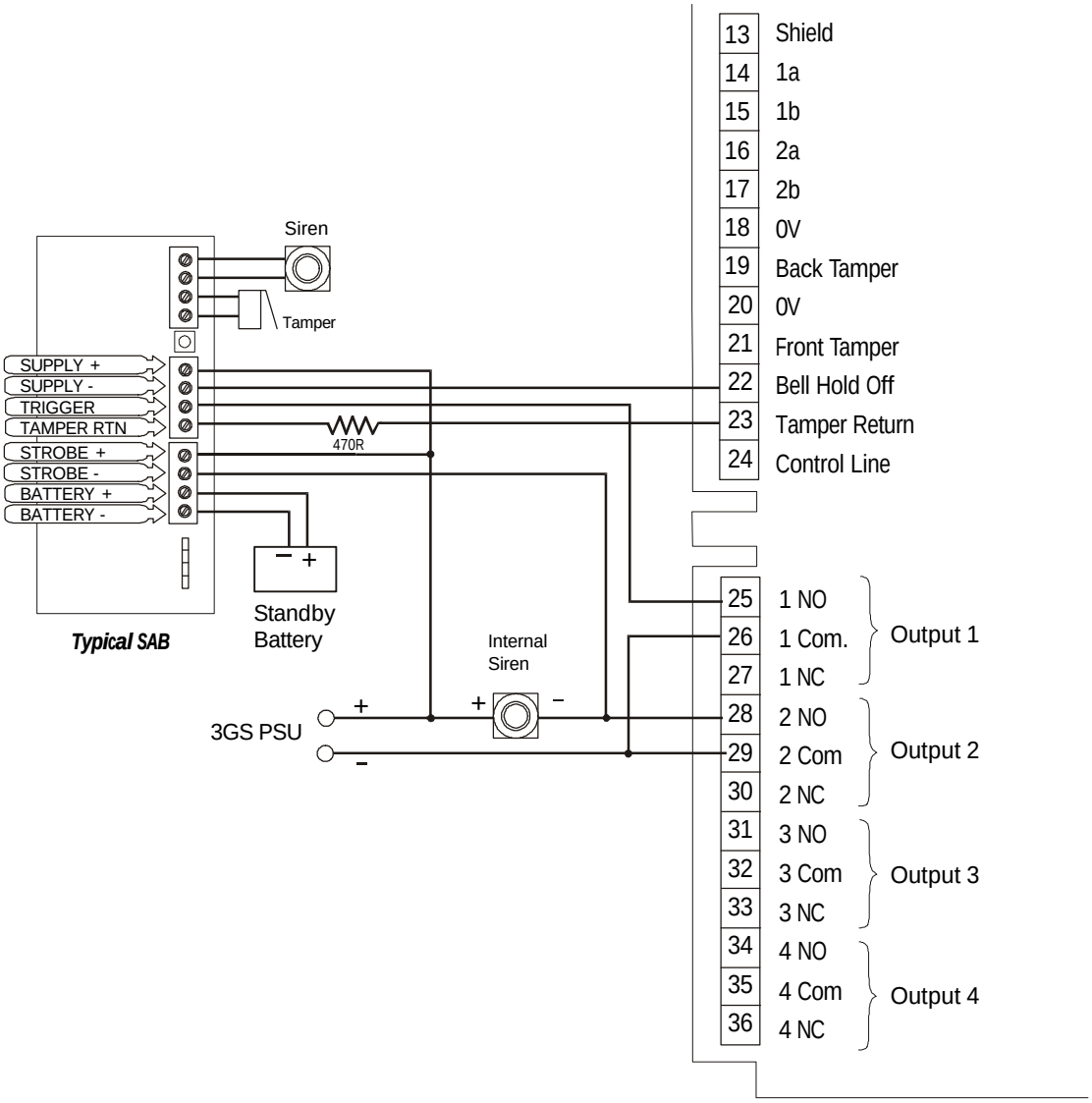
Program Enable Output - PE A Program Enable output must be programmed for this feature to be used. When this output is turned "on" the IB will be **fully disabled**. Typically this output would be used to allow the Installation Engineer to attend to the IB after an alarm.

Note *This output must be switched off for the IB to return to normal operation.*

Reset Memory - RS The IB memory may be reset by selecting this menu option and following the flow chart. The process of resetting memory is made difficult to erroneously select by requiring the engineer to press all three programming keys simultaneously twice in succession.

SELF-ACTIVATING BELL

To connect a Self-Activating Bell (SAB) to the 3GS system see diagram below.



14 NETWORK ROUTER

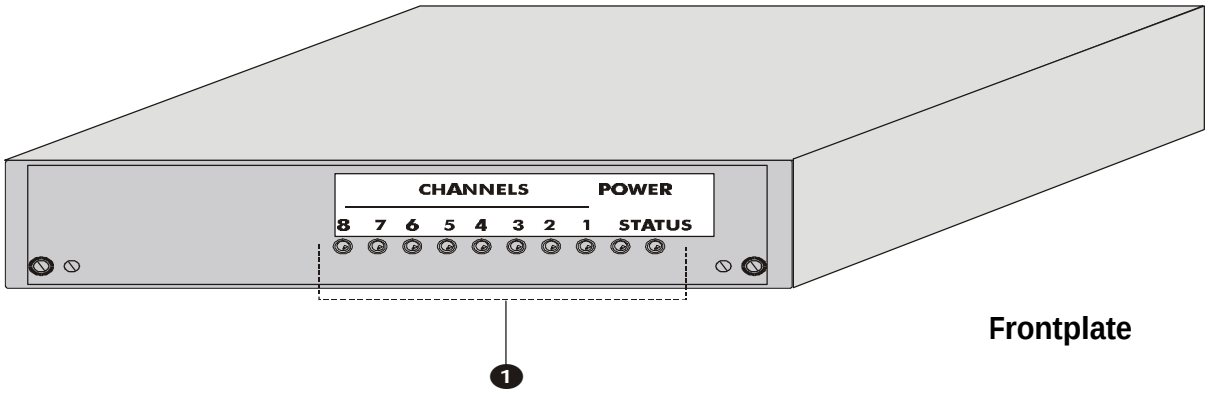
In this chapter

■ Network Router Overview 14-1

NETWORK ROUTER OVERVIEW

Description

The Europlex RS232/422 Network Router is used to connect up to 8 3GS Panels (or any other addressable RS232 / RS422 device) via RJ45 Slave Output connections. A PC serial port cable and 8 RJ45 to 25 pin D-Type Slave Output Cables are provided.

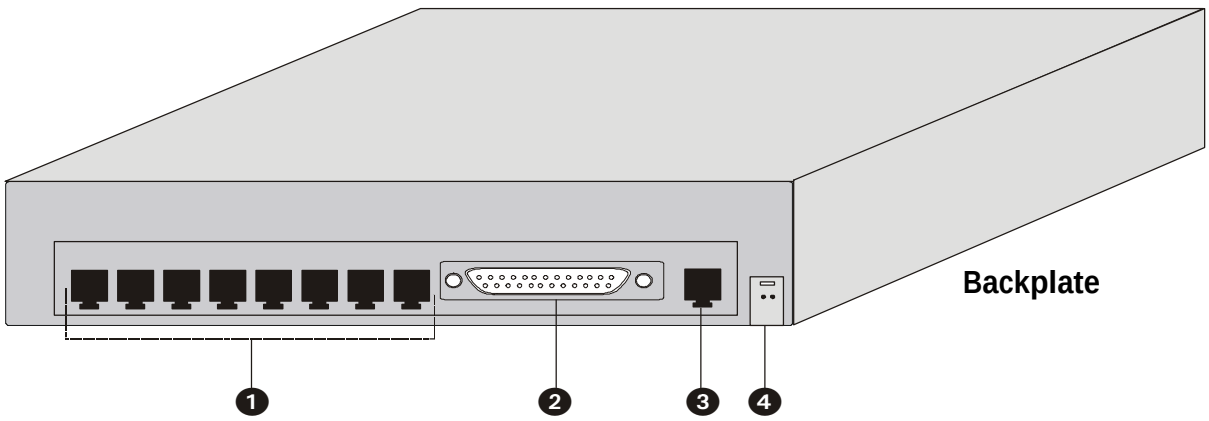


Frontplate

Each RJ45 connection and cable has all the signals necessary to enable a 3GS to be accessed by either RS232 or RS422. Both RS232 and RS422 devices can be connected to different ports on the same network router.

① **LEDs**

- **LED8** - Communications indicator channel 8
- **LED7** - Communications indicator channel 7
- **LED6** - Communications indicator channel 6
- **LED5** - Communications indicator channel 5
- **LED4** - Communications indicator channel 4
- **LED3** - Communications indicator channel 3
- **LED2** - Communications indicator channel 2
- **LED1** - Communications indicator channel 1
- **Power LED (red)**



Backplate

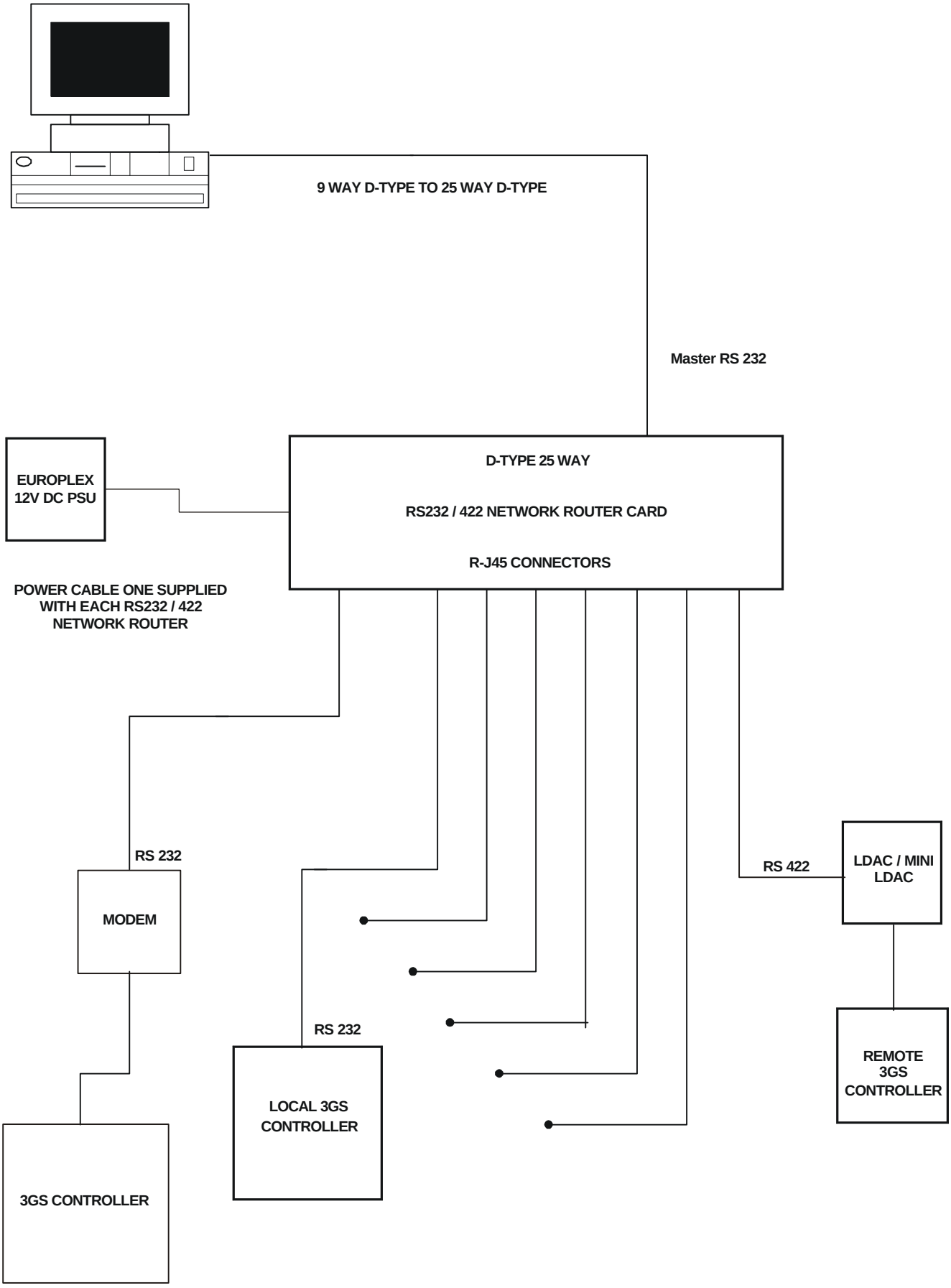
① **RS232/RS422 Slave outputs 1- 8**

② **RS232 Master (PC serial port)**

③ **RS422 Master**

④ **Power connection 12V**

Sample Connection Diagram



Additional Information

Note *See diagram on previous page for typical connection of multiple 3GS Controllers (remote and local) via the network router to a PC.*

Connecting a local or remote PC

The network router has both an RS232 and RS422 Master Input. This enables a local PC to be directly connected to the Network Router via the RS232 Master Input. Alternatively, the Network Router can be placed up to 1.6 Kilometres away from the controlling PC and connected via the RS422 Master Input.

To connect a local PC to the network router over RS232, a standard PC serial cable is used. This cable is provided.

To connect a remote PC over RS422 to a Network Router, a LDAC (or another Network Router) is required beside the PC to convert to RS422.

Note *You cannot connect both a RS232 and RS422 Master Input at the same time.*

Connecting the Network Router to a remote PC via a LDAC

NETWORK ROUTER REMOTE MASTER INPUT (RJ45)		LDAC TERMINAL BLOCK	
Cable colour	**PIN Number**	**PIN Number**	**Signal Name**
Blue/White	1	1	A
Blue	2	2	B
Brown/White	3	B-	GND
Brown	4	2	R2 IN
Orange/White	5	3	T 1 OUT
Orange	6	B-	GND
Green/White	7		
Green	8		

Connecting to RS232 devices (local 3GS or via Modem)

For the wiring details on how to connect a Network Router to a modem or 3GS, see the table below.

NETWORK ROUTER SIDE (RJ45)		3GS		MODEM CONNECTIONS
Channel 1- 8 Cable Colour	**PIN Number**	**Port 1**	**Port 2/Port 3**	**Modem 25 Pin D-Type**
Blue/White	1TX Positive			
Blue	2 TX Negative			
Brown/White	3 0V	7 GND	0V	7 GND
Brown	4 TX	2 RX IN	RX	3 RX
Orange/White	5 RX	3 TX OUT	TX	2 TX
Orange	6 0V	7 GND	0V	7 GND
Green/White	7 RX Positive			
Green	8 RX Negative			

Connecting to RS422 devices (remote 3GS panels)

A 3GS panel can be connected to a remote PC via placing a LDAC or Mini-LDAC close to the panel and connecting this to the Network Router as outlined in the table below.

NETWORK ROUTER SIDE (RJ45)		LDAC TERMINAL BLOCK	
Cable colour	**PIN Number**	**PIN Number**	**Signal Name**
Blue/White	1TX Positive	1	A
Blue	2 TX Negative	2	B
Brown/White	3 0V	B-	GND
Brown	4 TX	2	R2 IN
Orange/White	5 RX	3	T 1 OUT
Orange	6 0V	B-	GND
Green/White	7 RX Positive		
Green	8 RX Negative		

The panel can now be placed up to 1.6 Kilometres from the network router, depending on the type of cable used.

Connecting multiple Network Routers

Should you wish to control more than 8 panels from one PC serial port, you can cascade multiple network routers together by connecting any of the Slave Output Channels from one Network Router to a Master Input Channel (D-Type connector) of another router. Cascading four routers together allows one serial port to control up to 29 3GS panels.

Network Router to Remote Master Input

To connect from one network router to another remote Network Router, wire as outlined in the table below.

NETWORK ROUTER 1 SLAVE OUTPUTPUT (RJ45)		NETWORK ROUTER 2 REMOTE MASTER INPUT	
Cable colour	**PIN Number**	**PIN Number**	**Cable colour**
Blue/White	1TX Positive	7 RX Positive	Green/White
Blue	2 TX Negative	8 RX Negative	Green
Brown/White	3 0V	3 0V	Brown/White
Brown	4 TX	5 RX	Orange/White
Orange/White	5 RX	4 TX	Brown
Orange	6 0V	6 0V	Orange
Green/White	7 RX Positive	1 TX Positive	Blue/White
Green	8 RX Negative	2 TX Negative	Blue

Powering a Network Router.

A Network Router is powered from a 12 volt DC supply. A power cable is provided which will enable connection to any 12 DC Europlex PSU. Each Network Router requires 700mA for proper operation. The Power LED (Red) on the front panel is on when the unit is powered up.

Using the Network Router.

Each Network Router has 10 LEDs on the front panel. See Frontplate diagram at the start of this chapter.

STATUS:	This LED blinks when the master communicates
Power LED:	This is on once the Network is powered up.
Channel 1..8:	This LED blinks when either the master communicates or the slave responds.

Note *The Network Router will not operate correctly if the slave output (3GS panels) do not have unique addresses.*

3GS APPENDICES

About this Section

This section details the technical specifications of all the 3GS system components and gives an overview of the Europlex PC products.

Technical Specifications

- Details of all 3GS component specifications

3GS+

- 3GS Access Control Management Software

PanelMan 3GS

- 3GS Intruder Panel Manager

15 TECHNICAL SPECIFICATIONS

In this chapter

- 3GS Controller 15-1
- 3Amp Power Supply..... 15-2
- 4Amp Power Supply..... 15-3
- 8Amp Power Supply..... 15-4
- RKD node 15-5
- 8 I/O node 15-6
- 6 Output node..... 15-7
- Intellipower node..... 15-8
- Access Control node 15-9
- HUA node 15-10
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- Encryption node..... 15-12
- HHT 15-13
- EUIC..... 15-14
- DM 1200..... 15-15
- IntelliBell 15-16
- Network Router 15-17

3GS Controller

PCB dimensions	150mm x 246mm
Cabinet dimensions:	
3GS Euro Small E- CAB - 1236	465mm length x 450mm height x 130mm depth*
3GS Euro Large E - CAB - 1237	465mm x 450mm x 130mm
Power supply	8-14V via PSU connector J4
Quiescent current	200mA
Serial port power supply	Not suitable for powering Aux devices.
Ringnet interface	RS485, 307.2K baud
Memory backup	Lithium battery
Temperature range	-10°C to +40°C
Humidity range	0% to 90% (non-condensing)
Nodes	100
On-board zones	8 dual end-of-line using 2K2 (US: 1k470) resistors (Expandible to 200 using nodes)
Zone loop response	500mS
Zone loop current (closed)	1mA approx.
Bell tamper (BHO/TR)	Single 470R end-of-line resistor
Voltage substitution	Greater than 1V on zone and BHO/TR inputs will cause a voltage substitution condition
Front and back tamper	Short from input to 0V will generate a tamper
On board outputs	4 x 1Amp relay (Expandible to 255 using nodes)
Control line	12V @ 5mA max. Used to indicate state of first 50 output types (mainly for DM1200 CNTL line interface.
Red LED	Indicates comms traffic on ringnet
3 Serial ports	2 x TTL,1 x RS232 with RTS/CTS control
Default codes	Engineer = 1010 Master = 1020 Cabinet Dimensions

* All further dimensions will be given in this order.

3 Amp Power Supply Unit

PCB dimensions	170m x 90mm x 18mm
Maximum operating current	150mA
Minimum operating Voltage	9.5V DC
Outputs	2 x2 Amp form "C" relays
Accuracy	Current Readings +/- 0.1A Voltage Readings +/- 0.1V
Inputs	EOL Resistor Loops 2k2 (US:1k and 470)

4Amp Power Supply Unit

PCB dimensions	260m x 118mm x 58mm
Input voltage	230V nominal AC rms +10% / -15%
Input voltage frequency	47-63Hz
Hold up of output voltage	20ms after loss of AC
Nominal output	13.65Vdc @ 20°C
Line regulation	+/- 1% @ 20°C
Load regulation	+/- 3% @ 20°C
Cross regulation between outputs	+/- 3% @ 20°C
Output ripple	<0.5Vpk-pk
MTBF	100,000 hrs
Operating temperature	-10°C to +40°C
Typical efficiency	75%

8Amp Power Supply Unit

PCB dimensions	260m x 118mm x 58mm
Input voltage	230V nominal AC rms +10% / -15%
Input voltage frequency	47-63Hz
Hold up of output voltage	20ms after loss of AC
Nominal output	13.65Vdc @ 20°C
Line regulation	+/- 1% @ 20°C
Load regulation	+/- 3% @ 20°C
Cross regulation between outputs	+/- 3% @ 20°C
Output ripple	<0.5Vpk-pk
MTBF	100,000 hrs
Operating temperature	-10°C to +40°C
Typical efficiency	75%

RKD Node

PCB dimensions	122mm x 175mm x 23mm
Keypad dimensions	175mm x 120mm x 75mm
Minimum operating voltage	9.5V
Maximum operating current	300mA
Quiescent current	100mA
2 on-board zones	Dual 2K2 (US: 1k,470) end-of-line resistors

Outputs

Relay	Single pole changeover, 1 Amp
Display	2-line 48 character backlit liquid crystal display. Backlight intensity and viewing angle are programmable.
Keypad	20 key backlit keypad
Tamper	Front and Back tamper provided, each monitored separately
Memory backup	Data stored in EEPROM and can be examined on display
Temperature range	-10°C to +40°C
Humidity range	0% to 90% (non-condensing)

8 Input/Output Node

PCB dimensions	150mm x 82.5mm,
Enclosure dimensions	200mm x 153mm x 47mm
Minimum Operation Voltage	9.5V
Maximum Operating Current	200mA
Quiescent Current	100mA
8 on-board zones	Dual 2K2 End Of Line resistors (1K,470 R in US)
Outputs	1 relay, single pole changeover, 1 Amp
Status LED	Indicates status of communications
Tamper	Front tamper provided
Auxiliary Fuse	250mA Quick Blow 5/8" x 3/16"
Communications	RS485 at 307k2 baud, Infra Red Communications

6 Output Node

PCB dimensions	150mm x 82mm x 20mm
Enclosure dimensions	200mm x 153mm x 47mm
Min. operating voltage	9.5V
Max. operating current	200mA
Quiescent current	100mA
Outputs	6 x 1A single pole changeover relays
Status LED	Ringnet comms status
Tamper	Spring front tamper
Aux. fuse	250mA Quick-blow
Communications	RS485 at 307k2 baud, Infra-Red Communications
Memory back-up	EEPROM

IntelliPower Node

PCB dimensions	170mm x 90mm x 18mm
Maximum operating current	150mA
Minimum operating voltage	9.5Vdc
Outputs	2 x 1 Amp relays
Accuracy	Current Readings +/- 0.1A Voltage Readings +/- 0.1V
Inputs	4 EOL Resistor Loops (EOL)
Outputs	2 form “C” 1Amp relays

Access Control Node

General

Mains Supply	230Vac + 10% - 15%
Power Consumption (quiescent)	45mA
Power Consumption (max)	150mA
Max current drain	1A
Memory Backup	On-Board EEPROM
Cabinet Dimensions	233mm x 357mm x 80mm
Temperature Range	-10°C to +55°C
Humidity Range	0% to 90% (non-condensing)

Fuses

Lock Supply	1A
Battery	1A
Auxiliary	1A
Reader Supply	1A

On-board Zones	2 dual end of line resistors monitored
On-board Outputs	2 single-pole changeover 2A relay
Front tamper	On-board Microswitch (over-rideable)
Back tamper	Terminal Connections, normally closed
Communications	RS-485 at 307K baud and Infra-Red
Backup Power Supply	Sealed 12V lead-acid battery to 6.5 Ah

HUA Node

PCB dimensions	150mm x 110mm
Minimum operating voltage	9.5V
Maximum operating current	200mA
Quiescent current	100mA
4 on-board zones	Dual 2K2 (US:1k and 470) EOL resistors
Outputs	1 relay, single pole changeover, 1 Amp
Red status LED	Indicates status of ringnet communications
Green status LED	Indicates valid RF message received
Tamper	Front tamper provided
RF frequencies	418MHz version and 433MHz version

LEM Node

PCB Dimensions	150mm x 110mm x 20mm
Enclosure Dimensions	237mm x 355mm x 80mm
Power Consumption	90mA (no load)
Input Voltage	12VDC
Tamper	Front spring tamper, with override link.
Communications	RS485 at 307k2 baud, Infra-Red Communications

Encryption Node

PCB Dimensions	150mm x 82.5mm,
Enclosure Dimensions	200mm x 153mm x 47mm
Minimum Operation Voltage	9.5V
Maximum Operating Current	200mA
Quiescent Current	100mA
8 on-board zones	Dual 2K2 (US:1k and 470) End Of Line resistors
Outputs	1 relay, single pole changeover, 1 Amp
Status LED	Indicates status of communications
Tamper	Front tamper provided
Auxiliary Fuse	250mA Quick Blow 5/8" x 3/16"
Communications	RS485 at 307k2 baud, Infra Red Communications

Hand Held Terminal

PCB Dimensions	190mm x 135mm x 75mm
Display	2 x 24 Character Backlit LCD Display
Keypad	20-button illuminated keypad
Battery Save Feature	Unit powers down after 180 seconds of keypad activity
Serial Port	9-way Male D Connector, RS232
Printer Port	25-way female D connector
Status Indication	3 LED indicators and buzzer function
Operating Temperature	-10°C to +40°
Relative Humidity	<90%
Weight	800g (including batteries)

Power Supply

Batteries	4 x AA1.5V Alkaline long life batteries
Typical Battery Life	60hrs (2700mAH)
Auxiliary Power Jack	7 - 12VDC, 500mA
Serial Port Connector	7 - 12VDC, 500mA

Infra Red Port

Working Area Illumination	500Lux to 1500lux
Max. Operating Angle	+/- 30° in all directions
Max Operating Distance	10m (free air operating space)
Data Rate	1200 baud

EUIC

PCB Dimensions	188mm x 128mm x 22mm
Power Supply	12V DC
Power Consumption (quiescent)	100mA
Power Consumption (max)	200mA
Memory Backup	Lithium battery
Temperature Range	-10°C to +55°C
Humidity Range	0% to 90% (non-condensing)
Communications	RS232 x 3

DM1200

Supply Voltage	10.5 - 15 Vdc
Current Consumption	Stand-by 50mA, Operating100mA
Telephone Line Signalling	Programmable selection of Loop Disconnect or DTMF.
Dialling	4 phone numbers, each up to 24 digits can be specified. 2 phone numbers up to 24 digits long can be used for modem communication.
Communications Format	Dual (fast/slow) or Slow SIA Contact ID
Alarm Outputs	2 open collector darlington driver max. sink 250mA each. The DM1200 can be configured to control 4 panel outputs (between 1-50).
Programming	RKD Menu-driven, or PC Literal programming.
PCB Dimensions	188mm x 122mm

Intellibell

PCB Dimensions	150mm x 118mm
Display Type	2-Digit 7-segment
Input Voltage	11.4 - 15Vdc
Stand-by Battery	8.4 Vdc
Current Consumption (at 12.5Vdc)	100mA (quiescent) 700mA (sirens on) 500mA (speaker on) 20mA (power down)
Operating Temperature	-10°C to +40°C
Humidity Range	0-95% (non-condensing)
Inputs	1 on-board zone monitored via the data line. ("Tamper","Test", "Detect" or "Control").
Outputs	4 output functions (controlled by panel outputs).
Audible Sounders	Standard version -Piezo Siren (x2). VAB version -Speaker (12W 8ohm)
Visual Indicators	Strobe & "System Active" LED.
Test Features	Programmable Stand-by Battery test. Sounder, Strobe, and Battery test (output controlled).

Cabinet

Dimensions	365mm x 215mm x 85mm.
Material	Inner & Outer 2mm steel skin.
Tamper Protection	Lever Microswitch (x2).
Foam Ingress Detection	Infra-red Beam (x2).
Drilling Detect	"Drill Detect" option.

Network Router

General

Power Supply	12v DC
Power Consumption	700ma
Cabinet Dimensions	280mm x 62.8mm x 218.6mm
Temperature range	-10'C to + 55'C
Humidity Range	0% to 90% (non - condensing.)

Connections

Host Input	25 pin Dtype RS232 / RS422 connection.
Slave Input	8 addressable RS232 / RS422 connections (Channel 1 -8)

Cables provided

1 by RS232 Serial cable. (9 way D-Type to 25 way D-Type).
1 by Power cable.
8 by RS232 / RS422 cables. (RJ45 to flying lead).

16 PC SOFTWARE

In this chapter

- 3GS+ Overview..... 16-1
- Installing 3GS+ 16-2
- Installing the dongle 16-3
- Upgrading 16-4

3GS+ OVERVIEW

3GS+ Features

- Supports 9.999 panels
- Networks 24 panels on a local network
- Configure Cards, Doors, Door Groups, Time Zones and Holidays
- Upload and Download Access Control details
- Access Log
- General Log
- Generate reports on
    - Log Events received
    - P.C Operator events
    - Card Settings
    - Dormant Cards
- Roll Call
- Mustering reports
- Control doors remotely
- Keypad simulation
- Intruder reporting
- Graphical representation of doors, zones and outputs
- Alarm reporting through maps
- Backup and Purge
- Run archive reports

INSTALLING 3GS+

Installing 3GS+

- If installing 3GS+ for the first time, run **Setup.exe** from the \3GS+ ... directory on the CD. 3GS+ will now install to your c:\ drive. Run the program using **Start.. Programs.. 3GS+.**
- To run 3GS+ in non Demo Mode install the HASP Device driver.

Or

- From the HTML page click on Install 3GS+ 2.09

Install Shield Screen

INSTALLING THE DONGLE

Installing the Dongle HASP Device Driver

The coded dongle must be placed in LPT1 of the PC, and a **HASP Device Driver** installed from the CD.

Run or double-click on the **HDD32.EXE** file in the **\ 3GS+Dongle** directory of the CD. This will install the HASP device driver to your PC.

Or

From the HTML start up page click on "Install Dongle Driver"

Note *The Hasp Driver **MUST** be installed to run 3GS+ in non demo mode*

UPGRADING

Upgrading from 3GS+ 1.17 or 1.17a to 3GS+ 2.0

Note *You can only upgrade from 1.17 or 1.17a*

Steps Involved

① Make a copy of the following mdb files and save them to a new directory.

`data3gs.mdb`

datalog.mdb

ipanal.mdb

② Through the Control Panel uninstall 3GS+ Version 1.17 or 1.17a. Once it has been uninstalled check that there are no files in the directory where 3GS+ 1.17 was installed other than the backup directory (3gs) if there was one.

③ Install 3GS+ 2.0 (By running the setup.exe located on the CD Refer To: Installing 3GS+). If there is a file conflict always choose to keep original file.

Ignore any Access Violations and continue to load 3GS+.

④ Copy over the mdb files that were saved in step 1 to the directory where 3GS+ 2.0 has been installed

⑤ Copy the files located on the 3GS+ CD in the directory "Upgrade 1.17 or 1.17a to 2.0" to the directory where 3GS+2.0 has been installed. This will result in overwriting some files so if prompted say "Yes".

⑥ From the directory where 3GS+ 2.0 has been installed run the program Upgrade3GS5.0.exe. It will display a message informing the user whether the upgrade has been successfully run.

17 PANELMAN 3GS

In this chapter

- Panelman 3GS Overview 17-1
- Panelman EXE Files 17-2
- Features 17-3
- System Requirements 17-4
- Installation 17-5
- Troubleshooting 17-9

PANELMAN 3GS OVERVIEW

PANELMAN 3GS is designed to provide installers with a local / remote programming software program to interface with

-
- Providing storage of installer specific applications.
-
- Providing on-line custom software programming tools.

Panelman 3GS is designed for on-line (real time connection with a control panel), or off-line (file set-up and

Panelman 3GS communicates to the 3GS panel using a proprietary communications protocol called ESCO (Europlex

ESCO is a robust interrogation/response protocol that allows Panelman 3GS software to fully control, interrogate, and

Note *ESCO is available for use by programmers to create their own communications packages with the 3GS controller. Sub-licenses for programs utilizing ESCO commands are available.*

PANELMAN EXE FILES

Panelman 3GS is designed to provide easy access to all programming parameters of Europlex alarm panels. The Panelman 3GS disk contains the following three .EXE files:

PMAN.EXE

This file is the Panelman 3GS program file and should be installed on the PC hard disk. Panelman 3GS can be used on-line while in communication with the panel or off-line with no communications with a panel. Individual files can be set up for specific panels or for general installation sites.

MAKE_LIT.EXE

As new hardware applications are developed, the 3GS system software will be upgraded to facilitate this. For this reason it will be necessary to configure the Panelman 3GS program to recognise new versions of 3GS Software. You can achieve this by running the MAKE_LIT program from the PC hard disk.

FEATURES

Panelman 3GS has been developed to operate exclusively with the 3GS control system. The features in this version of Panelman 3GS are:

- Control of up to 200 Zone Inputs, 255 Outputs, 1500 Literals.
- Accommodates up to 126 User Codes; 24-Character (x2) display.
- On-screen display of 3GS Status LEDs and PC emulates system buzzer.
- System Status line and Software Information line.
- Upload and Download functions.
- 3GS database control, configure and monitor functions. (Excluding Access Control 3GS should be used for access)
- Print or control.
- New MAKE_LIT programs with extra communications control.
- Remote Communications Mode : Modem Terminal Window available, Choice of baud rate (up to 38,400), parity type saved with installation name/number.
- Help file and Hint information.
- No dongle required.

SYSTEM REQUIREMENTS

Hardware

To run Panelman 3GS and communicate with a 3GS controller, the following hardware is a minimum requirement:

- 486 IBM Compatible PC with a minimum of 3Mb of free hard disk space available.
- Serial Connection Leads.
- For Remote Communication: 1 Hayes compatible modem and DM1200 Digi/modem (or second Hayes modem).
- 512K Free Memory Space (RAM).

Software

- DOS: Panelman 3GS is a DOS program and requires DOS version 3.2 or higher to run.
- Windows: It is not advisable to run Panelman 3GS from within a Windows environment as COM port conflict is likely to occur.

INSTALLATION

To install Panelman 3GS follow these steps:

① Insert Panelman Installation disk into drive A.

② From within DOS log on to drive A.

A: ENTER

③ Type INSTALL ENTER (Press any key when prompted)

The main Panelman program file PMAN.EXE and MAKE_LIT.EXE are now loaded to the PC hard disk and stored in a directory called PMAN_3GS.

MAKELIT

Before running Panelman 3GS it is important to ensure that Panelman recognises the version of 3GS application software in use.

If this is the first time to run Panelman 3GS with the 3GS system or if you are using a special application software you MUST run the MAKELIT.EXE program.

The MAKELIT program generates a default literal file by extracting the data via the controllers serial port. Therefore the PC must be directly connected to the 3GS controller port (Europlex recommend using controller port 1, as its default communications protocol is set for Panelman 3GS).

It is also necessary to COLD START the panel before running MAKELIT. Failure to do so may cause file corruption.

Note *If you wish to use controller port 2, ensure that the communications protocol has been changed to match the Panelman default settings BEFORE you run MAKELIT - these settings are:*

- Printer: No
- Pager: No
- System ID: 1
- Access Control: 31
- Log Filter: 32767
- Access Filter: 255
- Dial Mode: 0
- Baud Rate: 2400, 4800, 9600, 19200
- Parity: Even, Odd, None
- Data Bits: 8,7
- Stop Bits: 1

If you proceed without running the MAKELIT program and Panelman does not recognise the literal file, the message “No matching default format” is displayed.

To run MAKE_LIT

The INSTALL program will have copied MAKE_LIT.EXE to C:\PMAN_3GS\.

① Log on to drive C.

C: ENTER

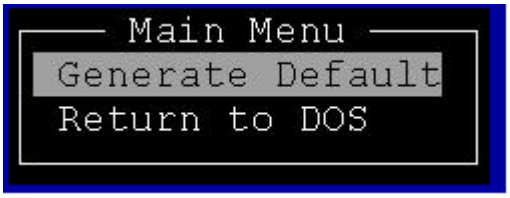
② Type CD PMAN_3GS ENTER

C:\PMAN_3GS>

③ Type MAKE_LIT ENTER

The MAKE_LIT main menu is displayed:

Press ENTER to Generate Default.



A “Make Default” warning message is now displayed. Press any key to continue. The system generates a default file and then requests a literal filename.

At the flashing cursor, enter a filename that corresponds to the application stored in the panel EPROM. For example, if you have a proprietary bank software, you could enter the filename BANK.LIT and press ENTER. When the file is saved, select Return to DOS.

Panelman 3GS will now operate with your panel version.

Panelman

To run Panelman 3GS follow these steps:

① Log on to drive C.

C: ENTER

② Type CD PMAN_3GS ENTER

C:\PMAN_3GS>

③ Type PMAN

The Panelman 3GS Password screen is displayed:

Panelman now requires a User Number and Password to continue.

Enter the default User Number: 1 ENTER

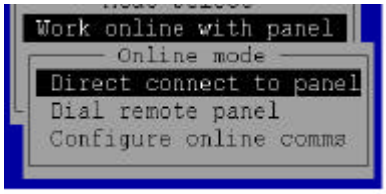
Enter the default Password: MASTER ENTER

After a few seconds a copyright message is displayed, press any key to continue.

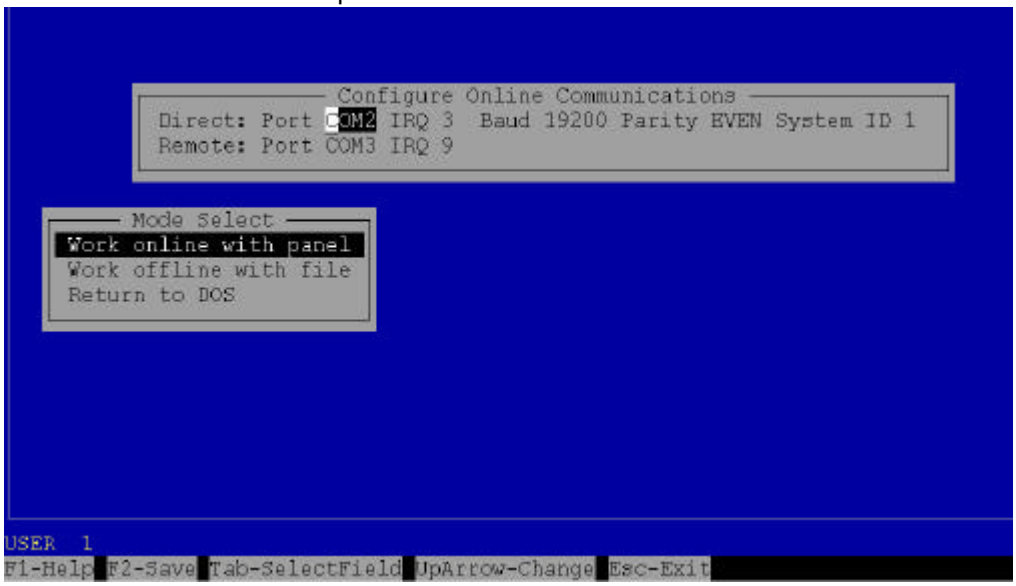
The MODE SELECT screen is displayed:

Select WORK ONLINE with Panel by pressing ENTER.

The ONLINE MODE window is displayed.



Select CONFIGURE ONLINE COMMS and press ENTER.



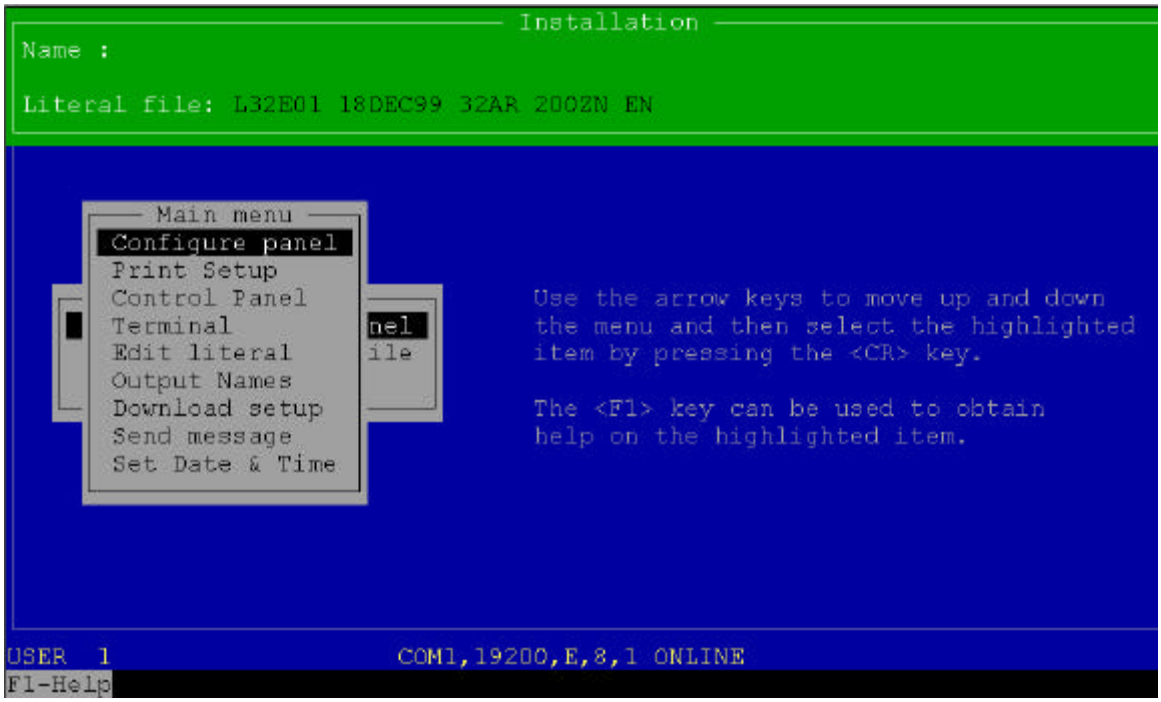
Use the down arrow key to select the PC com, port, IRQ, baud and parity settings (to determine the comport IRQ select control panel settings, system menu). Select the system ID of the panel required to work with. Press F2 to save settings and ESC to exit, then select direct or remote comms..

Press ENTER. The PC will now attempt to contact the controller.

If successful communication is established, an On Line Connection Status message appears for a short period.

Note *If communication has not been successful, a Retry/Abort prompt is displayed. If after a second attempt communications are still not successful, consult the "Trouble Shooting" section in this chapter.*

Once on-line to the 3GS the Panelman screen displays the MAIN MENU:



The MAIN MENU provides access to the system options (if working off line only some of these options are available). Refer to the 3GS Panelman manual for details of all menus.

Remember - press F1 for help information when required.

During Program execution...

If Panelman 3GS doesn't start-up or run correctly

- Make sure there is enough free disk space (approx. 3M Bytes).
- Make sure there is enough free memory (at least 512K bytes).
- If using a Windows DOS box check if the program runs correctly in DOS mode first.

Can't setup view / edit data in some menus when off-line or on-line

- Run the MAKE_LIT utility to ensure you have the latest default literal file for the system you are working on.

Going on-line - direct connection...

Can't get any response from the panel

- Check your serial cable connection again.
- Check your selected COM port on the PC is correct.
- Check your control panel serial port setup is correct and matches you COM port setup.
- Try reducing your baud rate.

When on-line you get a communication fail message

- If you are using a Windows DOS box try reducing your baud rate or just run Panelman 3GS in DOS mode only.
- Check that the control panel is still running.
- Check your serial cable for loose or faulty connections.

Going on-line - remote connection....

If your modem doesn't respond to Panelman 3GS

- Make sure your modem is turned on.
- Make sure you selected the correct COM port.
- Check your serial cable connection again.
- Run the Modem Terminal function in Panelman 3GS and check your modems functions as recommended by the modems manufacture manual.
- Check the modem set-up parameters in the file PMCONFIG.TXT are correct.

If your modem doesn't go off hook to dial a number or doesn't answer a CALLBACK from a site

- Make sure the telephone line working ok and is connected to the modem.
- Check the modem is setup for auto-answer.

Going on-line - remote connection...

If contact is make with the site and carrier signals are exchanged but you fail to establish a communication link

- Try making the call again. The telephone company routes calls differently each time you call.
- Call a different modem site to see if the problem persists. The problem could be at the installation site end.
  - Check the baud rate and parity setup match the installation site.
  - Try disabling your modems error control, baud adjust, hardware flow control and data compression functions.
- If using a DM1200 at the installation setup your modem for 11 bit asynchronous data format and for 1200 bps telephone line speed.
- After a communication link is made and Panelman 3GS is going on-line to a system a communication fails occurs

- Disable your modem software flow control (i.e. Xon/Xoff passed through the modem).

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