Euro MERiDIAN 'G' Range
"GETTING STARTED" MANUAL

This manual provides the basic information required to install and program a *Euro*-MERiDIAN G2/G3 system. Additional information for upgrading with MSX Card to *MSX-44*, 134 or 256 is included in supplementary instructions provided with the MSX Card (see below).

CONTENTS

Additional, and more detailed, information is available in the full "Engineering Manual"
Separate Technical Notes are available when using:
   Access Control / Guard Tour Systems / External Set Unset Readers
   DigiModem (including ARC digicom signalling, Downloading, and SMS text messaging)
   iD Technology
   Output Modules / STU Output Modules
   Expansion with MSX Cards
   Wards and Shunt Zones
   Zone Expansion

1. INTRODUCTION

The *Euro*-MERiDIAN is designed and manufactured to our ISO9001 approved quality system to offer a choice of options to suit most security applications.

All systems can be controlled using PIN Codes, proximity tags or by key- (or other) switches.

The system COM9600 DigiModem provides for Remote Signalling, Downloading and/or SMS text messaging.

EN50131

Euro-MERiDIAN is suitable for installation in systems complying with PD6662:2004 specified as follows (BSIA Form 171):

Product	Security Grade	Environment Class
G2 Endstations	1 and 2	1 and 2
G3-MSX cards	1 to 3	1 and 2
G3 Plus	1 to 3	1 and 2

All power supplies conform to EN.50131-6 (BSIA Form 180)

DD243:2004

The Euro-MERiDIAN 'G' range is fully compliant with the requirements of DD243:2004. All options are supported EXCEPT:
   Zeroing of 'Confirm Timer' if first zone to alarm retriggers (A.3.1).
We have a booklet available outlining how to install to DD243:2004 specifications, request TN-DD243 from our sales office.

Compliance Statement:

The *Euro*-MERiDIAN range complies with the requirements of the European EMC Directive (89/336/EC), the Low Voltage Directive (72/23/EC and 93/68/EC) & from (1/1/2006) the "Reduction of Hazardous Substances Directive (2002/95/EC). Appropriate components also comply with the requirements of the R&TTE Directive (1995/5/EC).

CE

It is essential that equipment and wiring be installed to avoid being affected by potential sources of interference.

WARRANTY

Castle Care-Tech Ltd will repair or replace, at our discretion, any product developing a fault within 2 years, free of charge. Products for repair should be returned to the factory, suitably packed to prevent damage (including damage from electrostatic discharges), *and be accompanied by full details of the fault, and the full return address*.

If the failure was caused by operating the system outside of its specification, by physical damage, or by unauthorised modifications, we reserve the right to raise an appropriate repair charge.

2. SPECIFICATIONS

A: ELECTRICAL SPECIFICATIONS

Mains Supply	230v AC Max 150mA
Fuse	250mA slow blow
Power Supplies	13·75v DC. Current rating as below.
	Please ensure that power supply capacity is adequate for the proposed system load.
Battery Fuse	1·5A quick blow (G2 endstation)
	3·15A quick blow (G3plus Endstation)
Supply out Fuses	800mA quick blow
Standby Battery	17Ah

Ratings for all Power Supplies
Specified battery: 12v 17Ahr Lead-Acid
PSU Electrical Capability: G2 units: 1.5 A
                         G3 units & intelligent PSU: 2.5 A
PSU Rating (EN50131-6):   Grade 1 Systems: 1.25 A
                         Grade 2 Systems: 1.0 A
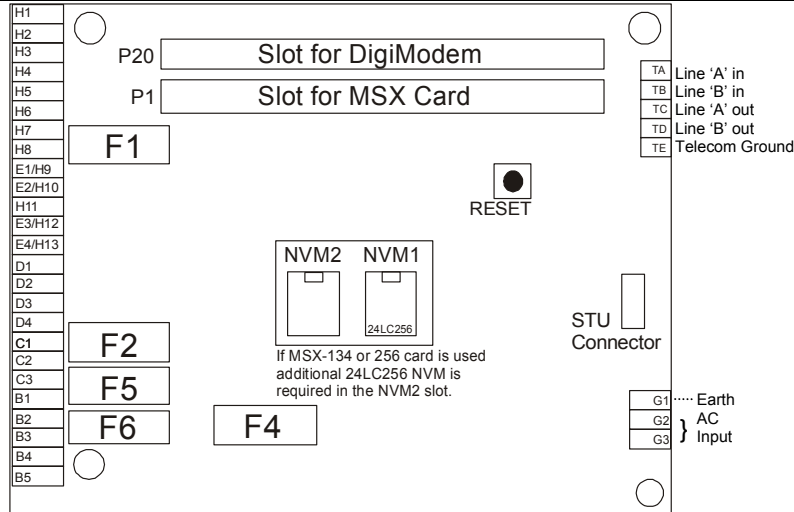   Grade 3 systems: 700 mA

Note: When Intelligent PSU is used for Access Control purposes, it is suitable for a maximum short-term loading of 2A for up to 15 seconds.

B: SYSTEM SPECIFICATIONS

Euro-	G2 iD	G2 EoL	MSX-44 iD	MSX-44 EoL	G3 + iD	G3 + EoL	MSX-134 iD	MSX-134 EoL	MSX-256 iD	MSX-256 EoL
Inputs (max)	24	16	44		74		134		256	
ZEM Inputs	1 x 8	1 x 8	1 x 8	4 x 8	1 x 30	7 x 8	3 x 30	14 x 8	7 x 30	29 x 8
Set points (max) §	4		8		8		30		30	
of which, max keypads:	4		8		8		16		16	
Other Devices Max:	3		7		7		29		29	
Level Sets	4		4		4		8		14	
Full Areas	-		4		4		8		14	
Wards (max)	-		7		7		29		29	
Shunts	-		16		32		64		128	
User/Managers	12		50		100		230		500	
Duress/Guards	10		20		20		20		20	
Logs	750		2000		2000		2000		2500	
Output Mods	1		2		4		8		8	
§	Includes keypads, tag readers, access control units and TMZs									

3. END STATION TERMINAL LAYOUT

Euro-G2 iD and EoL

Terminal Allocations:

G   AC input:
1   Mains earth
2-3   Transformer

B   SAB:
1   O/p 2 –
2   O/p 1 –
3   Tamp Ret
4   HO –
5   HO +

C   Outputs:
1   Speaker –
2   +12v
3   O/p 3 –

D   RS.485
1   0v
2   +12v
3   'A'
4   'B'

E   iD bus (*Euro-G2 iD only*)
1   0v   Black
2   +12v   Red
(H11 is NOT used)
3   Line –   Blue
4   Line +   Yellow

J   Not used

H   EoL Inputs (*Euro-G2 EoL only*)
1   Input 1
2   Common
3   Input 2
6   Input 3
7   Common
8   Input 4
11   Input 5
12   Common
13   Input 6
4,9   0v
5,10   +12v

T   Telecomms   - see info supplied with DigiModem

Fuse Allocations:

F1: +12v at terminals E or H   800mA
F2: +12v at terminals D   800mA
F4: +12v BATTERY   1.5 Amp
F5: +12v at terminals C   800mA
F6: +12v at terminals B   800mA

Euro-G3 PLUS
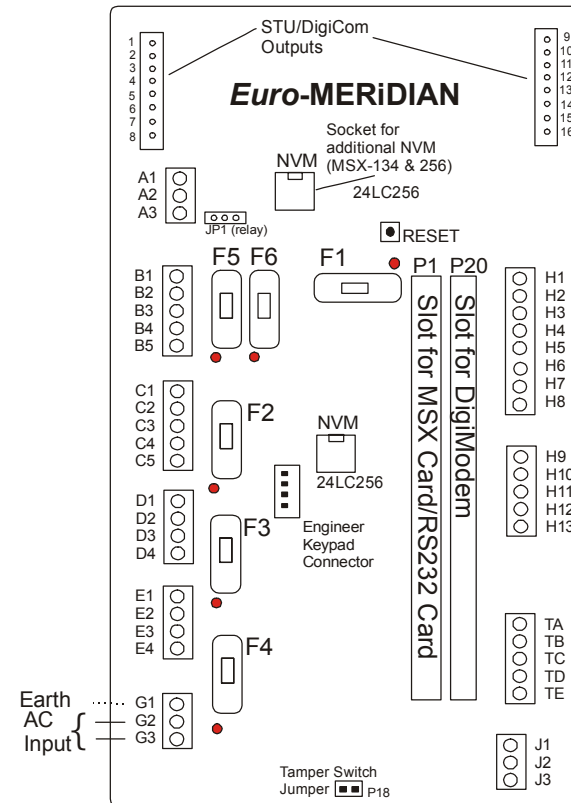
Fuse Allocations:
F1 (LED O4): +12v at terminals H   800mA
F2 (LED O1): +12v at terminals D   800mA
F3 (LED O5): +12v at terminals E   800mA
F4 (LED O6): +12v BATTERY   3.15Amp
F5 (LED O3): +12v at terminals C   800mA
F6 (LED O2): +12v at terminals B   800mA

Indications:
LED pulsing indicates communications normal
LED flashing at even on/off rate indicates fuse overload
LED steady indicates fuse blown

Terminal Allocations:

A   Relay (see p.21)
1   C Contact
2   NC Contact
3   NO Contact

B   SAB:
1   O/p 2 –
2   O/p 1 –
3   Tamp Ret
4   HO –
5   HO +

C   Outputs:
1   Speaker -
2   +12v
3   O/p 3 –
4   0v
5   O/p 4 +

D   RS.485
1   0v
2   +12v
3   'A'
4   'B'

E   iD bus
1   0v   black
2   +12v   red
3   Line –   blue
4   Line +   yellow

G   AC Input

H   EoL Zones
1   Input 1
2   Common
3   Input 2
6   Input 3
7   Common
8   Input 4
11   Input 5
12   Common
13   Input 6
4,9   0v
5,10   +12v

T   Telecomms - see info supplied with DigiModem

4. INSTALLATION GUIDANCE

An intruder alarm system can be broken down into four major parts:

1. Control Panel and Keypads
2. Detectors
3. Sounders and other outputs
4. Communications

We recommend that the installation is carried out in these four steps, and that each stage is tested before proceeding to the next.

This manual provides the necessary information to install the system and carry out the principal programming functions

For most installations, we recommend that you change only the options highlighted in this basic manual.

The full Engineer's Manual explains these options in additional detail, as well as providing details of the additional facilities available when the 'MSX Card' is fitted.

> **NOTES:**
>
> **1. Connections should NOT be made to equipment whilst it is powered up!**
>
> **2. Please ensure that the power supply of the Control equipment is adequate for the system it is intended to power from it. If appropriate, select a unit with a larger power supply, or include additional power supplies in the system specification.**

WIRING SPECIFICATION

> The following specifications must be observed when installing *Euro*-MERiDIAN alarm systems:

A: General Principles:

1	Routing:	NO alarm system cable should be run with other cables carrying AC or digital signals
2	Insulation:	Protect by the use of grommets, etc. where appropriate.
3	Specifications:	The following specifications for cable types and distances are important for reliable operation.

B: RS-485 Wiring (Keypad, etc. connections):

1	Cores	4- core minimum. Use of 6-core and doubling up supply cores is beneficial to minimise volt drop, but NEVER double communications connections (D3-4).
2	Cable type:	Twisted pair, eg **9502 (screened)** or Belden 9744 (unscreened)
3	Wiring format:	Parallel, 'daisy-chained.'
4	Cable length:	Overall network max 1 Km.
5	Termination:	Extreme end points fitted with 470Ω resistors between D3 / D4 if exceeds 20m.

C: End of Line Zone Wiring

1	Cores	4- core
2	Cable type:	Standard alarm cable; screened if required by environment.
3	Wiring format:	Detectors wired using EoL resistors, mounted at detector.
4	Cable length:	Max 1 Km per detector.

D: iD PLUS Wiring

1	Cable type:	Screened. 4- core minimum. Doubling up supply cores will minimise volt drop to detectors. Doubling of iD cores is also possible. Spare cores should be earthed to prevent AC noise.
2	Wiring format:	Any parallel format, except 'ring main' loops.
3	Termination	0.01μF capacitor between iD +/- at end of each cable run.
4	Cable length:	Max 100 metres for any cable run.
5	Biscuit location:	Must be wired directly to detector terminals.
		If it is impossible to locate the biscuit in this way, a 'DP' junction box must be used.
6	Checks:	All commissioning checks must be performed and recorded.
7	Warning:	In some situations, especially take-over sites using existing wiring, iD technology may not be suitable.

> **Castle Care-Tech Ltd cannot be held responsible for problems arising from failure to follow this specification**

# 5. INSTALLING END STATION and KEYPADS

THE END STATION

Mount the End Station securely using 4 fixing screws.

MAINS ELECTRICITY IS DANGEROUS

The mains connection to the End Station should comply with BS.7671, and be made by a competent electrician from the consumer unit or unswitched fused spur.

The mains cable should be routed through the inlet adjacent to the connector block. Do NOT use an alternative inlet, or loop the mains wire within the housing, to avoid the EMC performance being degraded.

N E L

Fuse 250mA
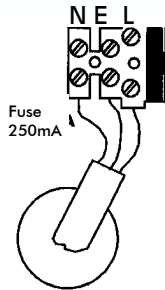
> **CAUTION:**
> **Disconnect the mains supply before removing the cover.**
> **Never add equipment to the system with power applied.**

KEYPADS and TAG READERS:

Similarly, mount the Keypads and Tag Readers as required. NOTE: Keypads and Tag Readers should NOT be mounted on a metal surface, or within 0·6 metres of each other, to prevent degradation of tag response.

Tag Readers, Access Control Points and TMZs must be addressed before being powered up. These must be allocated in the same number series.

Address 00 is always reserved for the principal Keypad.

Keypads are addressed in software (see page 21) in the SAME number sequence (0-x) as Tag Readers, etc.

Zone Expander Modules and Output Modules are addressed in the same way, *but in independent number sequences (0-x)*.

Address	Switch 1	Switch 2	Switch 4
0	Closed	Closed	Closed
1	**OPEN**	Closed	Closed
2	Closed	**OPEN**	Closed
3	**OPEN**	**OPEN**	Closed
4	Closed	Closed	**OPEN**
5	**OPEN**	Closed	**OPEN**
6	Closed	**OPEN**	**OPEN**
7	**OPEN**	**OPEN**	**OPEN**

Switch 8 should be *CLOSED*.

The address switches on TMZs and ZEMs work slightly differently. Switches should be pulled towards the numbers printed on the PCB to add up to the address required. Example below shows address 01.

1 2 4 8

WIRING Keypads and Tag Readers

These require a minimum 4-core connection. 6-cores is preferred, with the supply connections (D1,2) doubled up to minimise voltage drop. Twisted pair cable should be used.

Do NOT double up the communications pair (D3,4) under any circumstances.

Simply connect terminal D1 to D1, D2 to D2, etc.

Devices should be wired in sequence ('daisy-chained') rather than starred or spurred.

In the event of a keypad or tag reader being located more than 100 metres from the End Station, or if the supply voltage at the device falls to 11 volts or less, we recommend that it be powered from a local power supply.

The supplied 470-ohm resistors should be fitted between terminals D3 and D4 at the device at each end of the RS-485 network, as below:

470 Ω resistor – connect to last item at each end of network
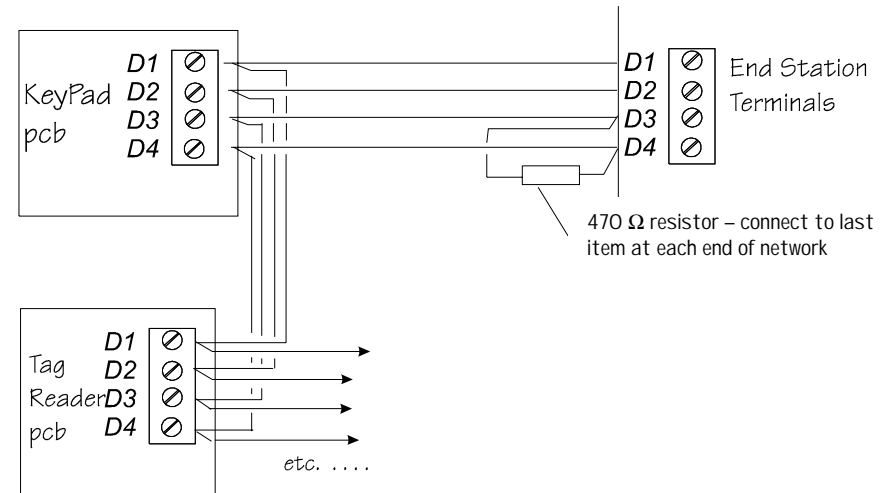
NOTES: Simply wire in parallel between all terminals with same legend.

Remember to put the 470Ω resistors at *each* end of the RS485 data BUS. (If the overall cable length is less than 20m the resistors should not be used).

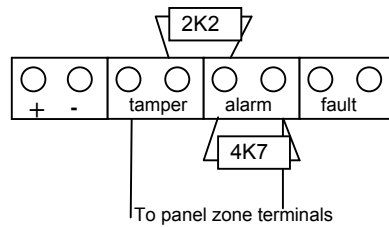Colour code 470Ω : Brown / Red / Brown

6. WIRING DETECTORS

End of Line Wiring

Grade 2 sytems

Resistor colour code:

    2K2 – Red / Red / Red / Gold
    4K7 – Yellow / Purple / Red / Gold

The 2K2 resistor MUST be located at the furthest point on the wiring circuit, or the wiring security it provides will be lost.
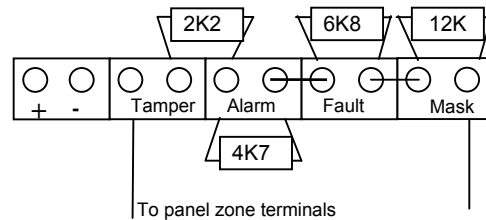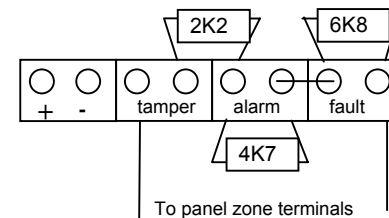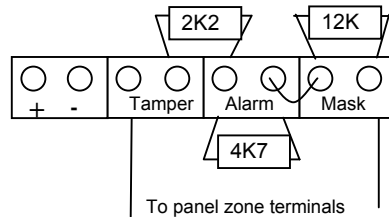
Grade 3 Systems

Resistor colour code:

    2K2 – Red / Red / Red / Gold
    4K7 – Yellow / Purple / Red / Gold
    6K8 – Blue / Grey / Red / Gold
    12K – Brown / Red / Red / Gold

A link must be fitted between the alarm and fault terminals as shown right. The 2K2 resistor MUST be located at the furthest point on the wiring circuit, or the wiring security it provides will be lost.

Please select the correct wiring configuration from those shown on this page which match the terminals in your detector.
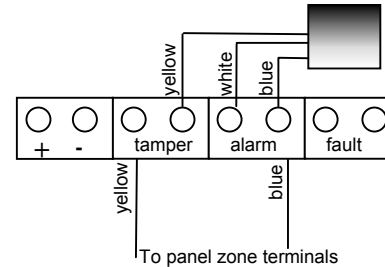
Keypad/TMZ Input wiring:
1: Wire between K1 & K3
2: Wire between K1 & K4

Endstation Input Wiring:
1: Wire between H1 & H2
2: Wire between H3 & H2
3: Wire between H6 & H7
4: Wire between H8 & H7
5: Wire between H11 & H12
6: Wire between H13 & H12

iD PLUS WIRING

Grade 2 systems

Blue wire (iD negative) should connect to endstation terminal E3. Yellow wire (iD positive) should connect to endstation terminal E4.

Figure 1

Grade 3 Systems

If "MASKING" terminals not present on detector, link 'biscuit 2' yellow wire direct to line.

If "FAULT" terminals not present, link 'biscuit 2' blue direct to line and short 'biscuit 2' white to blue.
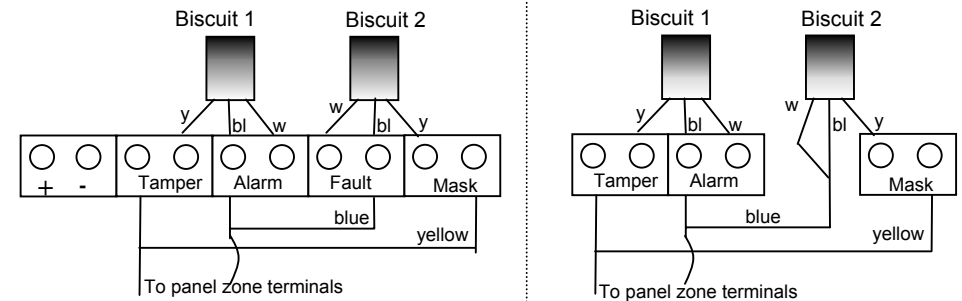
NORMALLY OPEN DETECTORS should be connected in the same way, with the 'Normally Open' attribute selected when programming the zone.

Mount all detectors in the required locations, and wire them to the iD bus in any parallel configuration – parallel, spur or star – as above.

NORMALLY OPEN DETECTORS should be connected in the same way, with the 'Normally Open' attribute selected when programming the input.

For input number identification, refer page 27,28.

iD LINE TERMINATION

Each cable run should be terminated with a 0.01μF capacitor connected between iD + and - (yellow and blue) at the last biscuit

---

Reminders for successful installation of an iD system:

1. **Ensure that all biscuits are correctly connected**

2. **Do not mix iD and iD Plus biscuits**

3. **Ensure that safe wiring distances are not exceeded and cable runs are correctly terminated (0.01μF capacitor).**

4. **Ensure that all biscuits are wired directly to the detector**

5. **Ensure that cabling specifications are carefully followed (see page 8).**

6. **Ensure that the resistance measurements are correctly checked and recorded.**

If you are not familiar with iD wiring, please request Technical Note "Installing iD Systems" for additional information.

Note on Programming Biscuits for Grade 3 systems:

```
Paired Input?
 Yes         [1]
```

When programming both biscuit 1 and 2 (see page 12), set this to yes.

```
Fault Input?
 No          [0]
```

If programming biscuit 2, the biscuit connected to the mask/fault terminals of the detector, set this to 'yes', otherwise leave at 'no'.

```
Paired With?
```

Enter the input number of the biscuit you are pairing with (for each input of the pair), e.g. if programming biscuit 2, enter the input number of biscuit 1.

---

7. WIRING OUTPUTS

> **When wiring outputs, do not exceed the maximum rating for individual outputs, or the system power supply.**

SAB Connections

OUTPUT RATING

Strobe and Siren Outputs are rated for 800mA each. Note that the 'Hold Off' fuse is rated as 800mA.

Ensure that the system power supply is not overloaded.
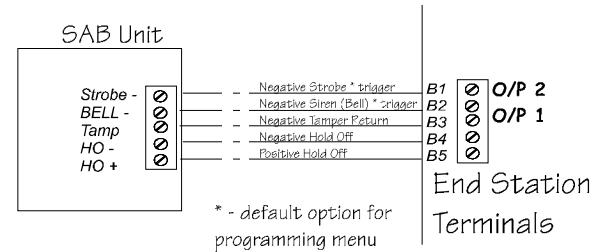
Current Available:

O/p 1 (siren): 800mA

O/p 2 (strobe): 800mA

Hold Off: 800mA

Note tamper return is NEGATIVE.

Other End Station Outputs

Current Available:

Speaker: 500mA

Output 3: 100mA

Output 4: 100mA

> **NOTE**: Output 3 may also be used at relay terminals 'A' on Euro-G3+. Select jumper JP1 at left, linking pins 1 and 2

Keypad Outputs
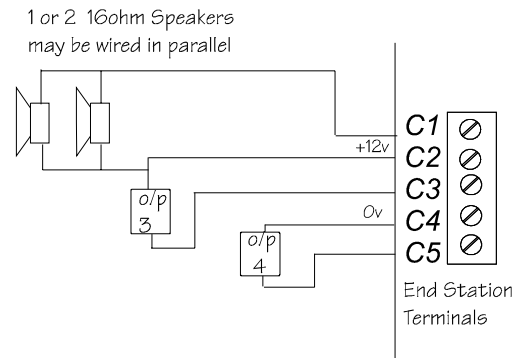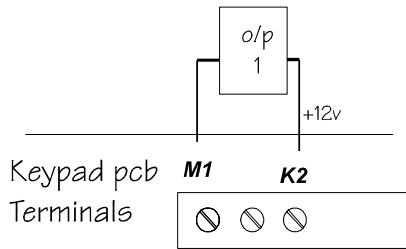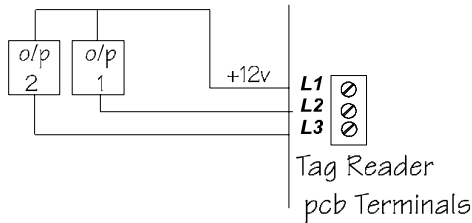

Keypad pcb **M1**   **K2**
Terminals

Current Available:

Output 1:
100mA

Set/Unset Tag Reader Outputs

Tag Reader
pcb Terminals

Current Available:

Each Output:
100mA

TMZ Outputs

1 or 2 16ohm Speakers
may be wired in parallel

End Station
Terminals

Current Available:
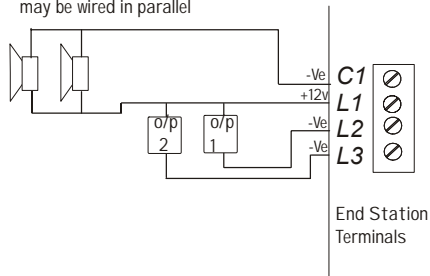
Each Output:
500mA

NOTE: Output 3 on TMZ units is a
loudspeaker driver capable of
driving a 16 ohm load.

OUTPUT CAPABILITIES

Output 1:   100mA

> **Please note the capabilities of each output, and avoid overloading them – or the overall power supply capacity.**

At End Station:

Hold Off	650mA (cont)	Fused / Max 800mA in alarm condition
Outputs 1 – 2	800mA	Fused
Output 3	100mA	Current limited

Volt free Relay contacts, rated at 3 Amps, may be used on *Euro*-G3+ endstations, see page 14

Output 4	100mA	Current limited

Only present on Euro-G3+ and above

Loudspeaker	Max load 8 ohms	Fused
		Suitable for 1x8 ohm, or 2x16 ohm speakers
'ATE' pins	1mA	-
Aux. 12v outlets	800mA	Fused

At Keypad:

Output 1	100mA	Current limited.

At Tag Reader:

Outputs 1 – 2	100mA	Current limited

O/P 3 on TMZ is loudspeaker drive (16 ohm load)

At Zone Expander Unit:

Outputs 1 – 4	250mA	Current limited

Note: restricted to maximum of 400mA simultaneous total loading.

At Output Module:

Outputs 1 – 16	250mA	Current Limited

Note: restricted to maximum of 400mA simultaneous total loading.

Plug-on Relay Interface

O/Ps R and S	800mA	Current limited
Relays 1 – 6	2.5 A	Volt free relay contacts

May be plugged onto Euro-G3+ End Station 'STU pins' or Output module.

COMMUNICATIONS OUTPUTS

Remote communication is possible by:

(i) The Snsp-In DigiModem

This may be used to provide 'digicom' signalling to an 'Alarm Receiving Centre,' Downloading to a PC running *Euro*-InSite software and/or SMS text messages to a mobile 'phone.

For full details, refer to Technical Note "Installation and use of COM9600 DigiModem."

(ii) A Hard-wired STU (or Dual Path Signalling Device)

A 14-pin connector is available on G2 endstations, which can be used with a plug-on loom (**cat no. EUR-114**) to connect to a STU or communicator.

To activate the ATE pins, an MSX-44, -134 or -256 card must be fitted.

NOTE:

This loom must be plugged on with the BLACK wire towards the BOTTOM of the printed Circuit Board.

Please ensure that the ATE is correctly programmed.

The pin and loom colour allocation for these outputs is as follows:

Pin	Loom colour	Program o/p No.	Default
1	BROWN	$	'Line Fault' input
2	RED	$	'RedCare Reset' **OR** 'Fail to Communicate' input
3	ORANGE	-	+12v supply
4	YELLOW	5	Tamper
5	GREEN	1	Fire
6	BLUE	6	Confirmed Any
7	MAUVE	3	Unconfirmed Any
8	GREY	2	HU Device Any
9	WHITE	-	0v supply
10	BLACK	4	Set Any
11	WHITE	7	Omit Rearm
12	BLACK	9	Fault
13	MAUVE	10	Test ATS
14	GREY	8	Mains Fail

Channel set-up for Hard-wired ATE

Outputs provide +5v dropping to 0v when triggered and have insufficient drive current available for any other application.
An option "Output Invert" is available to invert these outputs for 'positive applied' signalling. See page 44

$ - These input configurations must be enabled in 'Site Options' - see page 44. Inputs are configured to accept +v triggers (5-12v).

(iii) A Plug-on STU (or Dual Path Signalling Device)

Any communicating device with the industry standard footprint may be plugged onto the G3-plus End Station 'ATE' pins. The pin allocation for this device is shown below.

Inputs are configured to accept +v triggers (5v). These inputs must be enabled as shown on page 44 (ATE-Reply).
Please ensure that the ATE is correctly programmed.

NOTES:
The channels triggered on a STU (except Versus GSM STU) are NOT identical to those on a Digicom.

Programming a Digi/Dualcom or Versus GSM STU			
Digi Channel	Default Output Type	Panel Programmable Output No.	PCB Pin No.
1	Fire (0001)	ATE OP 1	1
2	Zone PA Any (0009)	ATE OP 2	2
3	Unconfirmed (0018)	ATE OP 3	3
4	Set All † (0004)	ATE OP 4	4
5	Tamper Any (0007)	ATE OP 5	5
6	Confirm Any (0006)	ATE OP 6	13
7	Zone Omit at Rearm (0017)	ATE OP 7	14
-	ATE Not Used (0066) *	ATE OP 8 §	16
-	ATE Not Used (0066) *	ATE OP 9	8
10	Test ATS (0064)	ATE OP 10	11
Inputs			
	RedCare Reset (STU only)	See page 48	6
	Fail to Communicate	See page 48	7
	Line Fault	See page 48	15
Supply			
	+12v supply	-	9
	0v supply	-	10
	+5v supply	-	12

NOTES:
Outputs provide positive removed signalling (ie +5v switching to 0 volts when active) An "output invert" option for '+ve applied' signalling is available. Insufficient current is available for other uses. See page 44.

* - If positive applied signalling us used, these outputs must be changed to type 0000 (unused), except if required by §

† - If you are using the panel in level setting mode, this must be changed to Set ANY (type 0022). Alternatively, it should be changed to "Misoperation" (0005) if set / unset monitoring is not required.

§ - If ATE requires digi reset output, programme ATE OP 8 as Reset Digi 0060.

Programming a STU (Excluding VERSUS GSM STU)

STU Channel	Default Output Type	Panel Programmable Output No.	PCB Pin No.
1	Fire (0001)	ATE OP 1	1
2	Zone PA Any (0009)	ATE OP 2	2
3	Unconfirmed (0018)	ATE OP 3	3
4	Set All † (0004)	ATE OP 4	4
5 or 7	Tamper (0007)	ATE OP 5	5
6	Zone Omit at Rearm (0017)	ATE OP 7	14
Not Used	ATE Not Used (0066)*	ATE OP 8	16
Not Used	ATE Not Used (0066)*	ATE OP 9	8
Not Used	Confirm Any (0006)	ATE OP 6	13
Not Used	Test ATS (0064)	ATE OP 10	11
Inputs			
	RedCare Reset Input	**See page 48**	6
	Line Fault Input	**See page 48**	15
Supply			
	+12v supply		9
	0v supply		10
	+5v supply		12

As outputs 8 and 9 are not connected on ATE, additional inputs are available on ATE terminals which may be wired from Endstation outputs 3 and 4.

Note: output will require a 1k resistor to 12v for correct operation.

NOTES:

Outputs provide positive removed signalling (ie +5v switching to 0 volts when active) An "output invert" option for '+ve applied' signalling is available. Insufficient current is available for other uses. See page 44.

* - If positive applied signalling us used, these outputs must be changed to type 0000 (unused), except if required by §

† - If you are using the panel in level setting mode, this must be changed to Set ANY (type 0022). Alternatively, it should be changed to "Misoperation" (0005) if set / unset monitoring is not required.

8. THE KEYPAD DISPLAY

Backlighting

LCDs and Keypad keys are backlit. The backlighting will illuminate at the start of entry and exit times, and at key entry, and will remain lit for 30 seconds after the last key entry, or termination of the function.

Note: A 'force backlight' option is available via each individual keypad menu.

Area LEDs

The Ⓐ Ⓑ Ⓒ Ⓓ keys at Keypads contain LEDs, which illuminate at all relevant times to indicate the security patterns being set/unset or programmed. This is functional for appropriate security patterns on LEVEL setting systems, and for first four (principal) areas on area setting systems.

Fault Indications

Fault indications shown on the Liquid Crystal Display will include a numeric identification of the individual device at which the fault is present, eg

    Mains Failure 401
    485 Fail 203 etc.

The first digit identifies the device type:

1 = End Station
2 = Keypad
3 = Tag Reader
4 = Zone Expansion Module
5 = Output Module

The remaining digit(s) identify the individual device of the type, eg: Mains Failure 401 =

    ZEM addressed as 01

    485 Fail 203 =

    Keypad addressed as 03

Display Options

(i) Customise Text Strings

The 'Area setting' text strings can be programmed to make the display meaningful to the user. Additionally, the 'Sign-on message' can be customised.

(ii) Display characteristics

The system can be tailored to display certain information without requiring a code entry:

Display when set — Enables the system to display the status of the areas whilst set, AND alarm events

    Not compliant with PD6662:2004

Site Name — Identification name for site (used for SMS messages and up/downloading).

9. POWERING UP and ADDRESSING the KEYPADS

Pre Power-Up Checks

Prior to powering up the system, a final check should be made of:

1. POWER SUPPLIES – adequate for the load to be applied.

2. WIRING – conforms to specifications in this manual.

3. CONNECTIONS – correctly made, with no loose 'whiskers,' etc.

When you are satisfied that all is correct:

Powering Up

Power up the End Station on MAINS ONLY.

Go to the first keypad, which will be showing

```
ADDRESS
         [_ _]
```

Key 0̲0̲ and A̲

```
Euro—MERiDIAN
Time:     00:03
```

The system will be generating a tamper alarm, use default code (1̲2̲3̲4̲) to silence. When 'Battery Fault' is indicated (**NOT BEFORE**), the back-up battery should be connected.

If you have more than one keypad on the system, they must all be addressed in the same way, ensuring that no address duplicates another Keypad, Tag Reader or Access Control Point.

When this has been done, any additional power supplies may be powered up – noting the same need to await a 'Battery Fault' indication before connecting the back-up battery.

NOTES:

A blank keypad display may mean that it has previously been coded to an address other than 00 (eg for test purposes). Press the D̲ key for 10 seconds to access the menu to enter the correct address as above. When prompted to enter a code, this is '2̲0̲0̲0̲.'

Additional keypads, and any tag readers on the system will NOT work unless they are correctly addressed, AND enabled in the engineer menu, as shown on page 37.

10. GENERAL PROGRAMMING PRINCIPLES

The various functions are selected and manipulated as follows. For simplicity, where menu content and data entry are straightforward and obvious, no detail will be provided in this basic manual.

ENTERING ENGINEER MENU

On a new system, only Keypad 00 is enabled by default, and it is therefore necessary to use this keypad until the remainder are enabled from the Engineer Programming Menu.

NOTE: The system MUST be fully unset before the Engineer or Manager menus can be accessed.

```
Euro-MERiDIAN
Time:     17:24
```

Enter engineer code
(default 1111)

```
SET/UNSET SYSTEM?
```

Press NO

```
FORCE ARM ON 1st
ZONE?
```

Press NO

A tamper alarm is
generated

```
Enter Code
          [       ]
```

Enter engineer code again

Alarm silences

```
INHIBIT FIRE/HU?
```

The system is now in the Engineer 'Main' menu. This gives access to a number of 'sub' menus, each of which enables a system function, or group of associated functions, to be programmed.

'Main' menu items are distinguished by using CAPITALS.

EXIT FROM ENGINEER MENU

On completion of programming or use of test/diagnostic functions, the system can be returned to normal mode by:

```
EXIT ENGINEER
MENU?
```

Press YES or A̲

```
Please Wait
Saving NVM data
```

```
Please Wait
Checking System
```

```
Euro-MERiDIAN
Time:     17:24
```

OR:
With the display showing any MAIN menu item (ie shown in CAPITALS), press A̲. The sequence followed will then be as above.

The system will check the current status of zones that would trigger an alarm if open, as well as certain programmed parameters.

GENERAL KEY FUNCTIONALITY

Key	In main menu	In sub menu
NO	Moves forwards to next main menu item	Answers questions, also exits to next menu level above, retaining all alterations made
YES	Selects and enters sub menu indicated	Accepts option offered, and moves to next item
[A]	Exit from Engineer menu	-
[B]	Moves backwards to previous menu item	Moves backwards to previous option
[C]		In Logs and Diagnostic menus, displays additional information
[D]	-	Moves forward to next option, or toggles between 'YES/NO' choices.

[B] = ←

[D] = →

If the display shows a fault message, return to engineer menu and correct the problem before again attempting to exit.

TEXT PROGRAMMING

Text may be programmed for Zone names, to identify the area(s) being set/unset, and the 'Sign-on' message and site name. In all cases, this is performed as follows:

Each key is allocated characters, which may be programmed as required:

,/+.1	abc2	def3	capital
1	2	3	A

ghi4	jkl5	mno6	←
4	5	6	B

pqrs7	tuv8	wxyz9	clear
7	8	9	C

	0		→
NO	0	YES	D

Press the relevant key the appropriate number of times – eg the [5] key once for 'J' the [7] key four times for 'S' etc.

[A] key will change the letter at the cursor position to a CAPITAL.

[B] key backspaces one position to the LEFT.

[C] key clears any character from the cursor position, and moves it one space to the right.

[D] key moves the cursor position one position to the RIGHT.

YES key accepts the text string as programmed, and returns to the relevant menu.

11. PROGRAMMING THE SYSTEM

CLEAN START

It is essential that a 'clean start' be performed at initial power up of a new system, to ensure that the initialisation is correct to true factory defaults.

If the Non-Volatile Memory (NVM) chip is ever removed from the End Station, it MUST be replaced before starting programming.

To perform a 'clean start':

With the display showing

```
CLEAN START?
```

Press YES

```
Clean Start?
[    ]
```

Enter ②⓪⓪⓪

```
Clean Start?
Please Wait
```

```
Panel has been
clean started!
```

Press YES

```
Clear Codes?
```

If you wish to keep the existing codes on the system press NO, otherwise press 'Yes'

```
Initialise Logs?
```

Press 'Yes' to clear logs

The system memory will now be restored to factory defaults, EXCEPT:

Keypad 00 remains enabled at all times
Keypad in use remains enabled.
Current Keypad areas are NOT changed

Note: If a new NVM chip is to be used, Logs must be cleared (see page 49)

INHIBIT FIRE/HU?

It is possible to prevent the panel from alarming from fire or Hold Up zones whilst in engineering menu through this option. Please be aware of the potential liability and hazard of inhibiting these zone types.

```
INHIBIT FIRE/HU?
```

When you come out of engineering, the inhibited zones will be re-instated automatically.

SOFTWARE REVISION

Selecting this option will display the software version fitted to the system, eg

```
Rev 5.00 UK
12345678 G3+74
```

This identifies the software version number, software serial

number and product, and should always be checked before contacting Technical Support.

MODE SELECTION

The G3+ panel defaults to accept 'End of Line' wiring, but may be programmed to use 'iD' technology by changing the setting in the 'Mode' menu. The *G2-EoL* endstation is EoL only and G2-iD is iD only.

With display showing

```
CHANGE MODE?
```

Press YES

```
Detection Mode
EoL        [ 1]
```

Use Ⓓ to select between iD [0] and EOL [1]
(on Euro G3+ & above only)

Press YES

```
EOL Mode
DR         [ 1]
```

Do *not* adjust this setting unless single-resistor wiring is to be used.

Press YES

```
Zone Response
400 mS     [08]
```

Do *not* adjust this setting

Press YES

```
Zone XDF
Off   [0]
```

DO NOT CHANGE THIS SETTING, unless specifically advised to do so by Castle Care-Tech Ltd Technical Support staff.

Press YES

```
CHOOSE MODE?
```

Press NO
Moves to next menu item

NOTES:

On systems with Zone Expander Modules fitted, the zones will be arranged as shown in the table on page 27,28.

Zones wired from Keypads / Tag Readers will ALWAYS be 'End of Line,' regardless of mode selected.

ENABLE ZEMS

Before a ZEM can be used, it must be correctly addressed (see page 9) AND enabled in software as follows:

With display showing

```
ENABLE ZEMs?
```

Press YES

```
ZEM Address
           [ 0]
```

Select ZEM to be enabled, eg press ① and YES

```
ZEM Installed
No         [0]
```

Use Ⓓ to select 'Yes [1]' and press YES

```
ZEM Address
           [ 1]
```

Repeat for additional ZEMs or Press NO

INPUT PROGRAMMING

Before programming, identify the number allocated to each input by the system software from the following tables.

iD Systems Input Map

Euro-	C2 iD	MSX-G3-iD-44	MSX-G3-iD-134	MSX-G3-iD-256	C3 PLUS 74	C3 PLUS MSX-134	C3 PLUS MSX-256
Zones	24	44	134	256	74	134	256
iD Inputs							
End Station	1-10	1-30	1 –30	1-30	1-30	1-30	1-30
ZEM 0	-	-	31-60	31-60	31-60	31-60	31-60
ZEM 1	-	-	61-90	61-90	-	61-90	61-90
ZEM 2	-	-	91-120	91-120	-	91-120	91-120
ZEM 3	-	-	-	121-150	-	-	121-150
ZEM 4	-	-	-	151-180	-	-	151-180
ZEM 5	-	-	-	181-210	-	-	181-210
ZEM 6	-	-	-	211-240	-	-	211-240
EoL Inputs							
End Station	-	-	-	-	61-66	121-126	241-246
ZEM 0	11-18	31-38	-	-	-	-	-
ZEM 1					-		
K'PAD 00	19-20	39-40	121-122	241-242	67-68	127-128	247-248
K'PAD 01	21-22	41-42	123-124	243-244	69-70	129-130	249-250
K'PAD 02	23-24	43-44	125-126	245-246	71-72	131-132	251-252
K'PAD 03	-	-	127-128	247-248	73-74	133-134	253-254
K'PAD 04	-	-	129-130	249-250	-	-	255-256
K'PAD 05	-	-	131-132	251-252	-	-	-
K'PAD 06	-	-	133-134	253-254	-	-	-
K'PAD 07	-	-	-	255-256	-	-	-

End of Line Systems Input Map

Euro-	C2 EoL	MSX-G3 EoL-44	MSX-G3 EoL-134	MSX-G3 EoL-256	C3 PLUS 74	C3 PLUS MSX-134	C3 PLUS MSX-256
Zones	16	44	134	256	74	134	256
EoL Inputs							
End Station	1-6	1-6	1-6	1-6	6	1-6	1-6
ZEM 0	7-14	7-14	7-14	7-14	7-14	7-14	7-14
ZEM 1	-	15-22	15-22	15-22	15-22	15-22	15-22
ZEM 2	-	23-30	23-30	23-30	23-30	23-30	23-30
ZEM 3	-	31-38	31-38	31-38	31-38	31-38	31-38
ZEM 4	-	-	39-46	39-46	39-46	39-46	39-46
ZEM 5	-	-	47-54	47-54	47-54	47-54	47-54
ZEM 6	-	-	55-62	55-62	55-62	55-62	55-62
ZEM 7	-	-	63-70	63-70	-	63-70	63-70
ZEM 8	-	-	71-78	71-78	-	71-78	71-78
ZEM 9	-	-	79-86	79-86	-	79-86	79-86
ZEM 10	-	-	87-94	87-94	-	87-94	87-94
ZEM 11	-	-	95-102	95-102	-	95-102	95-102
ZEM 12	-	-	103-110	103-110	-	103-110	103-110
ZEM 13	-	-	111-118	111-118	-	111-118	111-118
ZEM 14	-	-	-	119-126	-	-	119-126
ZEM 15	-	-	-	127-134	-	-	127-134
ZEM 16	-	-	-	135-142	-	-	135-142
ZEM 17	-	-	-	143-150	-	-	143-150
ZEM 18	-	-	-	151-158	-	-	151-158
ZEM 19	-	-	-	159-166	-	-	159-166
ZEM 20	-	-	-	167-174	-	-	167-174
ZEM 21	-	-	-	175-182	-	-	175-182
ZEM 22	-	-	-	183-190	-	-	183-190
ZEM 23	-	-	-	191-198	-	-	191-198
ZEM 24	-	-	-	199-206	-	-	199-206
ZEM 25	-	-	-	207-214	-	-	207-214
ZEM 26	-	-	-	215-222	-	-	215-222
ZEM 27	-	-	-	223-230	-	-	223-230
ZEM 28	-	-	-	231-238	-	-	231-238
K'PAD 00	15-16	39-40	119-120	239-240	63-64	119-120	239-240
K'PAD 01	-	41-42	121-122	241-242	65-66	121-122	241-242
K'PAD 02	-	43-44	123-124	243-244	67-68	123-124	243-244
K'PAD 03	-	-	125-126	245-246	69-70	125-126	245-246
K'PAD 04	-	-	127-128	247-248	71-72	127-128	247-248
K'PAD 05	-	-	129-130	249-250	73-74	129-130	249-250
K'PAD 06	-	-	131-132	251-252	-	131-132	251-252
K'PAD 07	-	-	133-134	253-254	-	133-134	253-254
	-	-	-	255-256	-	-	255-256

INPUT TYPES

	Type	Operation
00	Unsed	Factory default Zone is out of operation
01	Fire	Active at all times Audible response: Full (differentiated) Communicator: 'Fire' signal
02	Gas	Active at all times Audible response: Full (differentiated) Communicator: 'Gas' signal
03	PA	Active at all times Audible response: Full (differentiated) Communicator: 'Hold Up' and 'HU Input' signals
04	Silent PA	Active at all times Audible response: None Communicator: 'Hold Up' and 'Zone PA' signals
05	Tamper	**When unset**: Audible response: Internal Communicator: 'Tamper' signal **When set**: Audible response: Full Communicator: 'Tamper' + 'Intruder' signals.
06	Intruder	Active when set Audible response: Full Communicator: 'Intruder' signal
07	Final Exit (FX)	Active when set – initiates Entry time If system not unset before entry time expires: Audible response: Full Communicator: 'Intruder' signal
08	Entry Route (ER)	Active when set, except during entry time Audible response: Full Communicator: 'Intruder' signal

	Type	Operation
09	ER /Area	When Fully set, acts as ER zone, as above
	FX	When 'Part' set, acts as FX zone, as above
10	FX /Area	When Fully set, acts as FX zone, as above
	ER	When 'Part' set, acts as ER zone, as above
11	PTS	Active during exit time to complete setting procedure. No audible or communicator response.
12	Switcher	Active at all times. No audible or communicator response. Triggers associated output for switching other equipment.
13	Day Alarm	Additional types available for advanced applications – see full Engineering Manual
15	Ward Control	
16	Fault	
17	Closure Supervision	
18	Shunt	
19	Unset	Active when set. Accepts input from Keyswitch (or equivalent) to UNSET the area(s) assigned to it
20	Key-switch (Latch)	Accepts input from Keyswitch (or equivalent) to set / unset the area(s) assigned to it. Setting includes normal exit time, etc.
21	Entry Shock	Active when system set. Works in conjunction with "FX" zone type for detection of forced entry. See next page for details.
22	Key-switch (Pulsed)	As type 20, but accepts a pulsed input such as a radio pendant to set/unset system

NOTES:

'Part' set refers to levels B, C or D on a 'Level Setting' system, or to any combination other than all available areas on an 'Area Setting' system.

By default, all inputs are pre-set as 'unused' and must be programmed before the system can be used. The input will NOT be live, and therefore cannot be Walk tested, until after exiting Engineer mode.

A trigger from an 'Entry Route' input will be stored for 2 seconds before an alarm is activated. If a Final Exit input is triggered within this time, the system will select entry time, rather than an immediate alarm.

Entry Shock Input Type *

This input type is always used in conjunction with a 'Final Exit' input. The 'FX' input is a door contact on the initial entry door, the 'Entry Shock' input is a **non-latching** shock sensor fitted to the door frame in the vicinity of the lock.

If the initial entry door is subject to gross attack and forced open, an alarm will be triggered and at the expiry of entry time only one further intruder detector needs to be tripped to signal a sequentially confirmed alarm - the 'Entry Shock' input counts as the first to alarm.

The Final Exit door contact must be opened within 10 seconds of the shock detector triggering for the Entry Shock response to apply. Triggering the Entry Shock input in isolation will NOT generate an alarm of any kind.

* Entry Shock input type is only used if the system is installed to comply with DD243:2004 using unsetting in accord with section 6·4·5.

SECURITY PATTERNS

G2 panels use LEVEL setting, G3+ and MSX panels may use LEVEL or AREA setting.

LEVEL SETTING

The user has a choice of setting A or B or C or D. Each 'set' level will provide a different pattern of security coverage. Each input therefore will need to be allocated to the required levels.

For example, the front door may need to be active in all setting scenarios, and would therefore be programmed as [ABCD]. On the other hand, the master bedroom may only need to be active if ALL the system is set, and would therefore be assigned to [A   ]. The kitchen may need to be active at all times, except when the dog is left at home ('D' set) and at night ('B' set) and would be programmed [A C].

AREA SETTING

The user has the option of setting any combination of the areas, and of 'adding to' or 'subtracting from' the list of areas set.

NOTE: When partially set, the default will be to **ADD** additional areas up to the validity of the code, unless entry time has started, in which case relevant areas will be Unset.

Normally inputs will be allocated to a single area. Alternatively, they may be programmed to more than one area, in which case the choice is available of '**ANY**' (inputs live if **any** of programmed areas is set) or '**ALL**' (inputs live only if **all** of programmed areas are set).

ZONE ATTRIBUTES

Attribute	Response modification
Chime	System loudspeaker(s) will 'chime' when detector triggered whilst relevant area is unset. Note: zone concerned will NOT indicate on display.
Single	System chimes once when detector triggered
Follow	System chimes until detector is cleared.
	Applicable to 'Intruder' 'FX' 'EN' and 'Switcher' zones.
Omittable	Enables input to be manually omitted during the setting procedure
Normally Open	Enables the system to respond correctly when detectors of 'normally open' configuration are wired to the system. Alternatively converts input types which default to 'normally open' (eg PTS) to operate with normally closed devices.
Double knock	The control will only generate an alarm if this input is triggered twice within a pre-set period, or if the input remains open for that period.
Dual Trip	The Control will only generate an alarm if this input, and another like-programmed input **with adjacent number**, are in active condition at the same time. Either detector in fault condition will prevent the system from setting. **Both detectors must be wired using the same technology (iD or EoL) from the same device.**
Special Logged	Forces a log entry when the input is opened or closed, even when an alarm does not result.
	May be selected to apply when system is set, when unset, or always.

Attribute	Response modification
	This attribute MUST be selected for switcher inputs required to activate SMS text messages.
Paired Input	For use in Grade 3 iD systems. Select to 'YES' for each of the two biscuits acting as the input. (see page 12 & 13)
Fault Input	For use in Grade 3 iD systems. Select to 'YES' for the biscuit acting as the 'anti-mask' (biscuit 2 in figure 3 page 12)
Paired With	For both biscuits enter the input number with which each is paired (see page 13).
Confirm Group	Input will not 'confirm' an alarm triggered by another input from the same group. Groups 01 to 99 available. **Default '00' denotes NOT part of a group.**
	Inputs allocated to 'Group 99' will generate an alarm that results in an intruder (unconfirmed) signal to ARC. They will NOT under ANY circumstances generate a confirmed signal, regardless of which group the input that triggered the 'unconfirmed' alarm is allocated to. **See full Engineering Manual for further details.**

Any input may be programmed with any combination of these attributes, except where shown.

NOTE: Control of inputs on SOAK TEST is located in the 'Engineer Tests' menu - page 46.

PROGRAMMING STEPS

With the display showing

```
CHANGE INPUTS?
```

Press YES

```
Input Number
        [01]
```

Press YES

```
Input Type
Isolated   [00]
```

EITHER use D to scroll to required setting OR key in input type number from table above – eg 07

```
Input Type
Final Exit [07]
```

Press YES

```
Input Areas
        [ABCD]
```

Use keys to select the security patterns required, eg press A B

```
Input Areas
        [AB  ]
```

Whilst programming this step, the keypad Area (A,B,C,D) keys will illuminate when that pattern is selected.

Press YES

```
Input
Attributes?
```

Press YES

```
Chime
No        [0]
```

Use D to select No [0], Single [1] or Follow [2]

Press YES

```
Omittable
No        [0]
```

Continue to select input attribute options as required, until

```
Input Name?
```

Press YES

```
Enter Input Name
Input 01
```

Enter text to identify input, as described on page 23.

Press YES

```
Input Number
            [01]
```

EITHER key in next input number to programme, or NO to exit function

```
CHANGE INPUTS?
```

Press NO

Moves to next menu item

NOTE:

After programming the input, it is necessary to exit engineering for this to take effect, before the input can be walk tested, etc.

ASSIGNING KEYPADS and TAG READERS

Ensure that all Keypads and Tag Readers are correctly addressed BEFORE enabling them in this menu.

Each Keypad / Tag Reader can be assigned to SET and/or UNSET specified security patterns, **EXCEPT** for a *G3+* used in LEVEL setting mode.

In the case of area setting systems, it is necessary also to select the Area(s) **IN** – i.e. the area(s) in which the set point is located, to determine which exit route and mode applies when it is used to set the system.

See separate instructions for using Tag Readers as Ward Controllers, and for setting up Access Control Points.

TMZ MODULES:

These are addressed and programmed as Tag Readers.

AREA SETTING SYSTEMS:
Note that the areas that the TMZ unit is programmed to be "IN" controls the areas for which the loudspeaker output will generate tones – thus an 'area sounder' output is possible.

```
ASSIGN KEYPADS/
READERS?
```
Press YES
```
Address
           [0]
```
Use number keys (or Ⓓ) to select address

Press YES
```
Type
Keypad    [0]
```
Use Ⓓ to select Keypad [0] or Reader [1].
Press YES

OR
```
Default Level?
Set Point Sets Areas?
```
Select the system level / areas that will be set when code/tag is used at this point.
```
Set Point Name?
```
Permits location identification to be programmed for Set Point.

Press YES
```
Set Point Name
Reader 0
```
Enter text, as described on page 25.

Press YES
```
Address
           [0]
```
Key in address of next Keypad to be programmed, or NO to exit.

CHANGING SYSTEM DISPLAYS

The display information referred to on page 25 may be tailored to suit the installation:

With the display showing
```
SYSTEM DISPLAYS?
```
Press YES
```
Area A Text
Area A
```
Enter text, as described on page 28 and press YES

Repeat for each text string
```
Display When Set?
No        [0]
```
Selects whether system status information (ie which areas are set) is displayed, and alarm events, whilst system is set.

Permitted only Grade 1&2 systems using a means of unsetting that does not use an entry route.

Use Ⓓ to select as required and press YES

Repeat for each option
```
SYSTEM DISPLAYS
```
Press NO to move to next menu

CHANGING TIMERS

The various timers on the system are:

Timer	Function	Range	Default
Entry Time	Entry time for each Level or Area	0 – 255 secs	30
Exit Time	Exit time for each Level or Area	5 – 255 secs	30
Siren Time	Cut off time for external sounder	2 – 99 mins	15
Con-firm Time	Sets time period during which a second activation must occur to qualify as 'sequentially confirmed' alarm.	0-99 mins	30

Note: DD243 specifies between 30 and 60 minutes.

Timer	Function	Range	Default
Siren Delay	Delay after intruder alarm before siren live	0 – 20 mins	00

NOT valid within three minutes of final set, or if entry time started.

Timer	Function	Range	Default
Strobe Time	Time Strobe output stays live after end of Siren time	0 – 99 mins	00

'99' represents endless

Timer	Function	Range	Default
Re-Arm Num ber	Number of times system re-arms after end of Confirmation time	0 – 9	3

Note: rearm number applies to each Level or Area, and does not affect emergency alarms.
'9' represents always rearm

Timer	Function	Range	Default
AC signal Delay	Time delay before Mains failure or Technical alarm generated	0 – 250 mins	60
	Note: setting '250' = never alarms. System change-over to battery supply, and associated visual 'Mains Fail' indication is always immediate.		
Spea-ker Time	Time Speaker and Keypad Bleeper outputs stay live after end of Siren time	0 – 99 mins	0
	99' represents endless		
Settle	Time after exit procedure is complete before system is active (to permit exit route detectors to settle).	0 – 255 secs	05
Double Knock	Length of filter period applied to 'double knock' zones	0 – 75 secs	10
Pre-Alarm	Delays 'intruder' output signal if entry time has started	0 – 255 secs	030
	30 secs is minimum required for PD6662 systems		
Line Fault	Duration of ATS Path Fault before triggers 'Line Fault' alarm	0 – 250 secs	20
			Note: Timer setting 250 is Endless

Timer	Function	Range	Default
Set Fail	Time after which 'Set Fail' operation will be invoked if exit procedure not completed. Starts coincident with exit sequence.	5 – 255 secs	00
Guard Code Alarm	Minimum time an alarm must have existed before system permits a 'Guard code' to unset.	0 – 10 mins	03
Fire Siren	Cut off time for Fire alarm	0 – 99 mins	99

99' represents endless

Soak Test timer is located in 'Engineer Tests' - see page 45.

PROGRAMMING PROCEDURE:

With the display showing

```
CHANGE TIMERS?
```

Press YES

```
A Entry Time
          [030]
```

Adjust time as required, with numeric keys and press YES

```
A Exit Time
          [030]
```

Repeat for each timer . . .

Press NO

```
CHANGE TIMERS?
```

Press NO

Moves to next menu item

EXIT MODES

The exit mode can be set individually for each Security pattern or Area. The modes available are

'**Timed**' mode: sets the system when the programmed exit time has expired, provided all detectors on the exit route are clear. Any 'PTS' button fitted will be live also in this mode.

'**Final Door**' mode: the setting procedure will be completed when an input programmed as 'Final Exit' (FX) is closed. This mode may also be used for 'lock set' operation: securing the lock completes setting procedure, unlocking starts entry time.

'**Timed/Final**' mode: sets in the same way as 'Timed' mode, except that the timer will be overridden if a 'final exit' (FX) input is opened and closed before it expires.

'**PTS**' mode: will ignore the programmed exit time for the area in question, and will be endless.

Note: The PTS signal is NOT stored. If pressed before the exit route is clear, it will be ignored.

SILENT SETTING

There is no 'silent set' option as such. However, this function can be achieved by careful use of the 'volume control' options, especially volume level 1 (see page 39).

'**Intelligent Setting**'

See page 43 for details.

DD243:2004

The Euro-MERiDIAN range is fully compliant with the requirements of DD243:2004, having a full range of setting and unsetting modes available for any requirement.

See full Engineering Manual for additional information.

PROGRAMMING STEPS:

With the display showing

```
EXIT MODES?
```

Press YES

```
A Exit mode
Timed      [0]
```

Use D to select between 'Timed [0]' 'Final Door [1]' 'PTS [2]' and 'Door/Timed [3] for level/area A.

Press YES

```
B Exit mode
 Timed      [0]
```

Repeat for area B, etc.

Press YES

```
EXIT MODES?
```

Press NO

Moves to next menu item

PROGRAMMING CODES and TAGS

Codes may be 4-, 5- or 6-digit (It is preferable to avoid mixing different length codes on the same system), or proximity Tags. There is an option to only allow 5-digit codes for Grade 3 purposes. The security patterns valid for each may be programmed.

CODE TYPES and NUMBERS

Product:	User/Manager Codes	Duress/Guard Codes
Euro-G2	12	10
MSX-44	50	20
Euro-G3+	100	20
MSX-134	230	20
MSX-256	500	20
Plus Master Manager and Engineer codes		

IMPORTANT NOTE:

The Engineer can programme ONLY Engineer, Master Manager, Duress and Guard Codes.

Manager and User codes must be programmed through the MANAGER menu.

Engineer and Master Manager Codes cannot be deleted.

Tags programmed as Manager will not enter Manager Menu from a Tag reader.

CODE CAPABILITIES

Type	Functions	
USER **Default**	Set and Unset System only	**Program by MANAGER**
	Also for Access Control and Ward Control functions	
MANAGER	Set and Unset System	
	Also access to Manager menu functions	
MASTER MANAGER **Default 2222**	Access to Manager menu functions only.	**Program by Manager OR Engineer**
ENGINEER **Default 1111**	Access to all Engineering functions, also set/unset system for test purposes.	
DURESS	Unset System, generating silent 'Duress' or 'Hold Up' signal	
GUARD	Unset system, but only after an alarm, provided alarm has been active for a minimum time (programmable). Also Set System An output type is available to signal whenever this code is used.	**Program by ENGINEER only.**

A site option "Restrict PIN use" is available so that only TAGs may be used during entry time.

PROGRAMMING STEPS:

With the display showing

```
CHANGE CODES?

```

Press YES

```
5 digit PINS?
No              [0]
```

Use Ⓑ and Ⓓ keys to select whether you need to restrict all Pin-codes to 5 digits (required for grade 3 installations)

```
Change Duress
Codes?
```

Press YES

```
User Number
                [01]
```

Use number keys to select code to be changed

Press YES

```
Enter User Code
            [     ]
```

Use number keys to enter new code, or present Tag to reader to programme this.

Display shows [******] if a code or tag is already allocated: enter replacement code/tag, or press Ⓒ to delete.

Engineer and Master Manager Codes cannot be deleted.

Press YES

```
Code Type
Duress      [2]
```

Use Ⓓ to select between Duress [2] and Guard Code [3]

User and Manager codes can be programmed <u>*only*</u> *from the Manager menu.*

Press YES

```
UserAreas (Parts)
          [ABCD]
```

Use keys to select Security Patterns the code is to be valid for. Whilst this is being done, the 'ABCD' keys will be illuminated to reflect the choice made.

Press YES

```
User Set Options
Unset/Set    [0]
```

Use Ⓓ to select between Unset/Set [0], Unset only [1], Set only [2] and None [3]

Press YES

```
Flexiset
No           [0]
```

Select as required
Press YES

```
User Name
_
```

Enter text, as described on page 23.
Press YES

```
User Number
        [01]
```

Repeat this procedure for additional codes, and for

```
Change Master
Manager Code?
```

```
Change Engineer
Code?
```

VOLUME LEVELS

This applies to the system 'loudspeaker' output – levels generated at Keypads are programmed individually.

Each system tone may be programmed to a pre-set volume level, on a scale of 0 to 7.

The default levels are:

Intelligent set	2
Chime tone	3
Exit tones	3
Entry tones	4
Alert tone (tamper)	6
Alarm tones	7

NOTE: Level 1 is SILENT with an audible chime (at volume level set for chime) at the end of settle time. Chime present at all volume levels except 0. This may be used in conjunction with Site Option "E/E Keypads Only" when 'Silent Set' is required.

ALARM RESPONSES

Silent 1st Alarm

This prevents all system sounders from becoming live until an alarm has been 'confirmed' - eg to prevent noise interfering with audio confirmation equipment. Only applies after panel has been set for 3 minutes.

Disable Confirmation on entry

Used with a suitable FX, Unset or Keyswitch input to disable all sequential confirmation operation to satisfy relevant options in DD243:2004.

Inputs to confirm after entry

Accepts 1 or 2 inputs to trigger after expiration of entry time to qualify as 'sequentially confirmed' alarm.

NOTE: ONLY THE "2" SETTING COMPLIES WITH DD243:2004.

Each area alarm response may be programmed with the option of 'graduated' functions, as can 'Day Alarm,' 'Fire,' 'Gas' and 'HU' alarms. Graduation can be between 'Keypads', 'Internal Sounders,' 'Sirens only,' 'Digi' and 'Confirm.'

The following options are available for each:

```
Starts at _ _ _ _
```
Insert initial alarm level

```
Stops at _ _ _ _
```
Insert final alarm level

The response may thus be set to graduate from keypad sounders to internal sounders to sirens to digi (remote signalling) to confirmed, with 15 seconds at each level before the next step.

NOTE: An additional upgrade level is available if using Area setting.

⚠️ To comply with EN50131, 'Day Alarm' must be set to 'Stop' no higher than Sirens Only.

PROGRAMMING STEPS:

With the display showing

```
ALARM RESPONSE?
```

Press YES

```
Area A Starts at
Keypads    [1]
```

Use Ⓓ to select from 'Keypads [0],' 'Int Sounders [1],' 'Siren only [2]' and 'Digi [3]' and press YES,

```
Area A stops at
Confirm    [4]
```

Use Ⓓ to select from 'Keypads [0],' 'Int Sounders [1],' 'Siren only [2]' 'Digi [3]' or 'Confirm [4] and press YES

Repeat for other areas, etc.

```
ALARM RESPONSE?
```

Press NO to move to next menu item

PROGRAMMING OUTPUTS

Any output type may be programmed to any of the system outputs.

The most frequently used output types are summarised below. Additional output types are available for advanced use – see full Engineering Manual.

Outputs MUST be used within their rated capacity.

Please note particularly the differences between Hold Up, PA and Duress. For general use the default 'HOLD UP' should be used.

NOTE: To identify the STU output numbers that correspond to the communicator output pins/loom colours, refer to table on pages 17, 18 & 19.

Type		Default	Active	Restore
0000	Not Used	Default setting except where shown		
0001	Fire	ATE 1	At Alarm	When valid code entered
0002	Hold Up Any	-	At any HU/Duress alarm	When valid code entered
0003	Intruder ANY	-	At alarm, while system set	At first valid code entry
0004	Final Set ALL	ATE 4	When system is FULLY set	At code entry to unset
0005	Misoperation ANY (Abort)		When system silenced after any 'intruder' output triggered	After 2 minutes
0006	Confirmed ANY	ATE 6	When alarm is sequentially confirmed – **see page 42**	At next code entry
0007	Tamper Any	ATE 5	Any tamper alarm	At code entry to silence
0009	HU Device ANY	ATE 2	At Alarm on a **HU device** (NOT Duress)	When valid code entered
			NOTE: This output type responds ONLY to devices wired into HU Inputs, NOT Duress Codes or 2-key PA	
0010	Gas	-	At Alarm	When valid code entered
0014	Siren ANY	ES 1	When alarm live	When alarm silenced, or when Siren timer expires
0016	Strobe ANY	ES 2	When alarm live	When alarm silenced, or when Strobe timer expires
0017	Omit Rearm Any	ATE 7	At rearm at end of confirm time, if zone in fault isolated	When system unset
0018	Unconfirmed	ATE3	Any tamper or intruder alarm when system set.	At code entry to silence OR at rearm (re-instatement) at end of 'confirm' time.

Type		Default	Active	Restore
0022	Final Set ANY	-	When FIRST area is set	At code entry to unset LAST area
0036	Shunt Fault	-	For use with shunt input – see Technical Note "Use of Wards and Shunts."	

Output type 0035/0036 cannot be fired by ATE pins.

Type		Default	Active	Restore
0037	Reset 1 (Viper Reset)	-	At code entry to set	After 3 seconds
0038	Reset 2 (Viper Set/Unset)	-	At code entry to set	When unset
			Re-triggers whenever an additional area is set.	
0039	PIR Latch 1		When set (and in Walk Test)	On alarm, or when unset

NOTE: restores and re-applied at 'Reinstatement' after unconfirmed alarm.

Type		Default	Active	Restore
0040	PIR Latch 2	-	This is the inverse polarity to PIR Latch 1	
0052	Mains Fail	ES 4	After pre-set time without mains power	On restore of mains
0055	Global Fault 1	G2 ATE9	During any fault if the system is set.	At code to unset AND if fault clear
0056	Global Fault 2	G3 ATE9	During any fault at any time	At code to silence AND if fault clear
0060	Reset Digi	ATE 8	At power up	Live for 5 seconds only.
0064	Test ATS	ATE 10	When output switched in engineer menu	When test completed
0066	ATE Not Used	ATE 8 ATE 9	Constant +5v, does not switch or restore	

This configuration MUST always be programmed to STU output 8 if a plug-on DIGICOM is in use (not required for STU).

Principal types from the above list are also available on a 'per Area' basis - see full Engineering Manual.

The following types are available for all systems (see also type 035 for G3+ and MSX panels).

Type		Default	Active	Restore
1001	Follow zone 1	-	When input 1 is activated	When zone clears
	to			
1256	Follow zone 256	-	When input 256 is activated	When zone clears

ie add 1000 to the input number to select the output type required.

SEQUENTIALLY CONFIRMED OUTPUTS

The first detector to alarm will cause an 'intruder' signal to be sent to the ARC, as an "UNCONFIRMED" alarm. If a second detector goes into alarm prior to the end of 'confirm' time, the "CONFIRMED" signal will be sent to ARC for notification to the police. A repeat trigger of the first detector will be ignored.

Two inputs within the same "Confirm Group" cannot provide confirmation (see page 31).

If the 'CONFIRMED' signal has NOT been sent by the end of confirm time, the system will reset and (subject to setting of 'rearm count') rearm. The 'intruder' signal WILL restore. In the event of a further trigger before the system is unset, the full cycle of alarm events is available, as above.

For additional information, including operation on entry route and other special features, see full 'Engineering Manual.'

AREA SOUNDER OUTPUTS

There are no programmable 'area sounder' configurations available. However, the third output on a TMZ module is configured as a loudspeaker driver, and suitable programming of the options for the TMZ provides area sounder outputs (see page 33).

PROGRAMMING STEPS:

With the display showing

```
CHANGE OUTPUTS?
```

Press YES

```
End Station
Outputs?
```

Press NO to move to next set of outputs, or Press YES

```
Output 1      [014]
Siren Any
```

Use number keys to select output type from table on page 44, or [D] or [B] to scroll through available options

Press YES

```
Output 2      [016]
Strobe Any
```

Repeat for Outputs 2, 3 and 4
Press YES

```
ATE OP 1
Fire          [001]
```

Repeat for ATE OP 1 to 9
Press YES

```
End Station
Outputs?
```

Etc. to

```
CHANGE OUTPUTS?
```

Press NO

Moves to next menu item

NOTE: In some cases there will be a delay of up to 10 seconds before the display updates after selecting an output type that 'jumps' an unused type number.

INTELLIGENT SETTING

LEVEL SETTING SYSTEMS

Setting the system in pattern 'A' will commence 'intelligent setting' of the whole system, with the exit tone at 'intelligent' volume level.

Activating the nominated zone during exit time will cause the system to switch to & set pattern 'B.'

AREA SETTING SYSTEMS

Setting the system with any code including area B will initiate setting the areas for which the code/tag is valid, with the exit tone at 'intelligent' level.

Activating the nominated zone during exit time will cause the system to OMIT area B, and 'quick-set' the remaining areas.

In order to unset successfully, it is essential that a detector be sited to start entry time before entering the code. If this is not done, additional areas will set, instead of unsetting.

ALL SYSTEMS

If an FX zone is triggered before the nominated zone, the system will switch to full setting (or as determined by code validity) and continue to set, using normal exit mode.

NOTES:

> It is **NOT** possible to 'Intelligent set' other combinations of security patterns.

> If 'intelligent set' is in use, the exit route must be designed so that an 'FX' detector can only be triggered when the system is definitely required to 'fully' set.
>
> The 'intelligent' detector must be sited to ensure that ALL potential system users are correctly detected. Some 'pet-immune' detectors are not suitable.
>
> Do NOT use a door contact as the 'intelligent' zone.

Programming Steps

With the display showing

```
INTELLIGENT SET?
```

Press YES

```
Intelligent
 No       [0]
```

Use Ⓓ to choose No [0] or Yes [1]

Press YES

```
Intelligent   [——]
```

Insert input number required to switch to 'Part' set and press 'Yes'. To remove an input from the list, key in the zone number again,

Press YES

```
INTELLIGENT SET?
```

Press NO

Moves to next menu item

SITE OPTIONS

A range of options is available to tailor the operation of the system. See full Engineering Manual for details. Please note especially:

Rearm Isolates	Forces the zone triggering an 'unconfirmed' alarm to be isolated at rearm (re-instatement) at the end of 'confirm' time, whether the zone be in fault or not.
Use Level set	Permits *Euro-44+* to be selected to function in 'Level setting' mode. *See* page 34.
ATE Reply	Permits selection of inputs on 'plug-on' or loom connector to suit 'STU' (inc. Red Care Reset), 'Digicom' (inc. Fail to Communicate), 'Relay Interface monitoring' or 'not used.' **NOTE**: This option MUST be set to 'STU' or 'Digi' in order for Line Fault (and other) Monitoring to function.
Invert ATE O/Ps	Changes outputs at ATE pins (on End station only), to trigger as "POSITIVE APPLIED" instead of the default "Positive Removed."
Common Lobby	If selected as 'YES' (default), system will automatically select the highest priority exit mode from all the areas that are capable of being set from that set point. If selected as 'NO', system will select the highest priority exit mode from these areas actually being set at the time.
Restrict PIN Codes	If set to 'YES' then PIN codes can still be programmed but will not work during entry time.

ENGINEER RESTORES

Engineer Resets may be performed by:

- Use of Engineer code on site
- Use of 'remote restore anticode' (if option enabled) to generate a reset code from a PC programme that will perform the Reset
- Red Care Reset from Alarm Receiving Centre
- Download Reset from PC running 'Euro-InSite' software

If Engineer Restores are programmed, an engineer must reset the system before it can be used again. This will not interfere with the generation of an emergency alarm.

Options are available as follows:

Engineer Restore of HU

Following a Hold Up (HU Device or Duress) alarm.

Engineer Restore of Intruder

Following an intruder alarm. This may be selected to operate either on generation of standard 'Intruder' signal, or 'Secure Intruder' signal.

Engineer Restore of Tamper

Following a Tamper alarm.

Engineer Restore of Soak

In the event of a zone with the 'soak' attribute triggering whilst the system is set.

Engineer Restore of Confirm

Following an sequentially confirmed alarm.

Anticode restore

Enables system to display an anticode whilst awaiting Engineer Reset, which can be used to generate a special reset code.

12. TEST AND DIAGNOSTIC FACILITIES

AUTOMATIC TESTS

BATTERY TEST

The system performs a check of the battery operation every 10 seconds, by dipping the power supply voltage momentarily, and measuring the system voltage. If the battery voltage measured is below 12·0v, or the battery fuse has failed, a 'BATTERY FAULT' warning will be generated.

BATTERY LOAD TEST

Euro-MERiDIAN systems may be set up to perform an automatic 'Battery Load Test' at every power supply at 7:00 am each day. This will drop the power supply voltage below battery voltage, and (G3+ and above) switch a dummy resistive load onto the system whilst monitoring the system diagnostics.

This test will NOT take place if:

- the End Station Siren and Strobe outputs are live
- the system is in engineer mode
- any battery fault exists
- any mains fault exists
- the 'site option' is not selected

If the test has already started, it will be aborted if any of these conditions apply, other than entry into Engineer menu.

If the test is aborted, it will NOT be performed until the next day.

This is selected in 'SITE OPTIONS.' The test may also be performed as required, under engineer control.

OTHER TEST FACILTIES

ENGINEER SYSTEM SET

This permits the engineer code to set and unset the system.

With display showing

```
Euro-MERiDIAN
Time      13:45
```

Enter Engineer code (default 1111)

```
SET/UNSET SYSTEM?
```

Press YES

```
Set Areas
          [ABCD]
```

Select security pattern to be set, noting that the ABCD keys will illuminate to reflect the selection.

Press YES

```
Setting    [30]
A
```

The system will commence setting, in 'Timed' mode. Exit time will count down, and system set.

ENGINEER FORCE SET

This permits the engineer code to set and unset the system, forcing it to set despite zones in fault condition, and nominate which zone must be triggered to generate an alarm condition.

With display showing

```
Euro-MERiDIAN
Time      13:45
```

Enter Engineer code

```
SET/UNSET SYSTEM?
```

Press NO

```
FORCE ARM ON 1st
ZONE        [01]
```

Nominate number of zone to generate alarm once set, eg Press ⓪⑤ and YES

```
FORCE ARM ON 2nd
ZONE        [01]
```

Nominate number of additional zone to generate alarm once set, eg Press ①③ and YES

```
Set Areas
          [ABCD]
```
etc.
The system will QUICK-SET.

Note: In both cases, the system will give correct ATS response to the setting, and any resulting alarm (including sequential confirmation *if the zones selected provide a valid combination*). On unsetting, the system will revert to normal mode.

> **Note: If the system has been set by any other code, the Engineer code will NOT unset it.**

KEYPAD DISPLAY TEST

Each Keypad display may be tested individually. Press Ⓑ for 5 seconds. All LEDs will light, and the LCD will scroll the display to test every pixel, reverting to the normal display after 10 seconds.

ENGINEER TEST FACILITIES

Walk Test

Permits the detectors on the system to be tested, for the entire system or for selected area(s).

The display scrolls through all programmed zones. As test is conducted, system chimes, and zone tested is removed from scrolling display, until the last zone has been triggered, or the test aborted.

Note: Exit from Engineer menu to 'set' programming before walk test.

Soak Control

Any zone (except 'FX' types) may be placed on 'soak test' to prevent it from generating an alarm. Should it trigger whilst the area to which is allocated is set, the system will log and indicate activation (at unset). An option is also available to force the system into 'Engineer Reset' mode in the event of an activation.

Batt Load Test

Power supply voltage is reduced, placing system and simulated alarm load on battery.

Outputs Tests

Sirens (and strobes) can be tested direct from menu.

Other output types can be selected (NOT by individual output) using the output type numbers - see page 44

ALL outputs programmed to that configuration (inc. slot-in DigiModem and plug-on ATE) will be tested.

SYSTEM DIAGNOSTIC FACILITIES

The system diagnostics are available for all parts of the system, including any remote power supplies fitted.

The diagnostic resolution is:
VOLTS:	0·1
CURRENT:	0·01A

System voltage and current – at End Station and at each individual power supply.

System voltage – at each Keypad / Tag Reader

Battery condition and charge current – at End Station or any remote power supply (under development).

Display inputs – current status of all inputs connected to a single system component, displayed in real time

iD Diagnostics – Slow scan, line current, biscuit diagnostic current – at End Station and each ZEM.

Calibration – permits calibration of End Station PSU and iD output voltages, using a calibrated meter.

With display showing

```
DIAGNOSTICS?
```

Press YES

```
View PSUs?
```

Press YES

```
End Station PSU
13.75v 0.22A
```

Display shows diagnostic readings for End Station power supply in *quiescent* state

Press Ⓐ to display alarm current, ⓪ to return.

On completion, press YES

```
ZEM PSU [0]
13.65v 0.150A
```

Use YES / NO keys to select other power supplies, etc.

Press NO

```
View Inputs?
```

Press YES

```
EndStation Inputs?
```

Press YES

```
ccc00cc0cc0cc0c
00cccFFFFFFFFFF
```

Display shows status of End Station iD inputs (1 – 30) in real time, displaying the following codes:

c: input in normal * state
0: input in active state
F: input in Tamper state
T: iD input in 'Twin Device' state

* - 'normal' state of PTS and SHUNT inputs is OPEN, 'active' state is closed.

Note a corresponding display is provided for EoL inputs.

Press YES

```
Zone status [01]
14mA    14mA
```

Readings for iD biscuit 1 show 'diagnostic' current, and 'switch' current respectively for that biscuit.

OR:

```
Input status [01]
2K2    DM
```

Readings for EoL input 1 show the circuit resistance and circuit status

CC: Closed Circuit
OC: Open Circuit
DF: Detector Fault
DM: Detector Mask
DT: Detector Tamper

Press YES

```
Slow Scan?
```

(Systems with iD in use only)

Press YES

```
Slow scan
Is in progress . .
```

System switches to iD slow scan mode, so that actual 'mid' scanning voltages on the End Station iD line can be measured (ideally, should be 6.50v).

Press YES

```
EndStation Inputs?
```

Press NO

```
ZEM Inputs?
```

Repeat above diagnostic steps for zones wired to each input Expander, Keypad or Tag Reader

Press YES

```
DIAGNOSTICS?
```

Press NO

Moves to next menu item

13. SYSTEM LOGS

Logs are fully date and time stamped, and are accessible from either Engineer or Manager menus.

PANEL LOG includes all 'set,' 'unset', 'alarm' events and system faults etc. The code holder performing the operation logged may be identified by pressing the Ⓒ key.

ENGINEER LOG includes all system faults, together with details of engineer access, etc.

ACCESS LOG includes all ACCESS CONTROL events.

Within each log, the Ⓓ key will move to the next event, starting with the most recent event. The Ⓑ key will move similarly, but in the reverse direction.

To view additional detail, press the Ⓒ key. If none is available, the display will move directly to the next entry. Press the Ⓐ key to return to the main screen for that entry.

Number of log events available:

Log:	Panel	Access
G2 panel	625	125
C3+ Panel	1500	500
MSX-44	1500	500
MSX-134	1500	500
MSX-245	1750	750

Identification of Codes:

The user, etc. codes used are identified by number, as follows:

Code	Identity
Engineer Code	Engineer Code
Master Manager Code	Master Manager Code
User (or Manager) 01 – XX	Codes 01 to XX programmed in Manager menu
Duress (or Guard) 01 – XX	Codes 01 to XX programmed in Engineer menu
Keyswitch (ie zone input)	Log identifies as "Zone Switched"

Fault Codes

Fault codes shown in the system logs include a numeric identification of the individual device at which the fault is present, eg

   'No Comms 203'   etc.

The first digit identifies the device type:

   1 = End Station
   2 = Keypad
   3 = Tag Reader
   4 = Zone Expansion Module
   5 = Output Module

The remaining digit(s) identify the individual device of the type, eg '*No Comms 203*' identifies the Keypad addressed as 03, etc.

14. System Expansion

Expansion of the system is by means of 'MSX' Cards that slot into the End Station to provide enhanced specifications.

All MSX expansion cards fulfil the requirements of PD6662:2004.

The cards are compatible with the following panels as follows:

Endstation:	G2 iD	G2 EoL	G3 Plus
	24 inputs	16 inputs	74 inputs
Expand to 44 Inputs	MSX-44-iD card	MSX-44-EoL card	N/A
Expand to 134 inputs	MSX-134-iD card	MSX-134-EoL card	MSX-G3plus-134 card
Expand to 256 Inputs	MSX-256-iD card	MSX-256-EoL card	MSX-G3plus-256 card
	MSX-iD cards will also fit into Euro-MERiDIAN 28 panels fitted with endstation software 4.X.	MSX-EoL cards will also fit into Euro-MERiDIAN 22 panels fitted with endstation software 4.X.	MSX-G3plus cards will also fit into Euro-MERiDIAN 44 panels fitted with endstation software 4.X.

INSERTING THE MSX CARD

The MSX card must be slotted into the correct socket labelled P1 on the End Station, as shown.

Note correct orientation of card before attempting to insert

Towards TOP edge of pcb

P1 P20

Slot for MSX card

TEST PASS

ENSURE THAT THE CORRECT SOCKET IS USED - They are NOT interchangeable !!!

Insert card at slight angle

Ease to vertical position

Note: card snaps into place and retained by springs
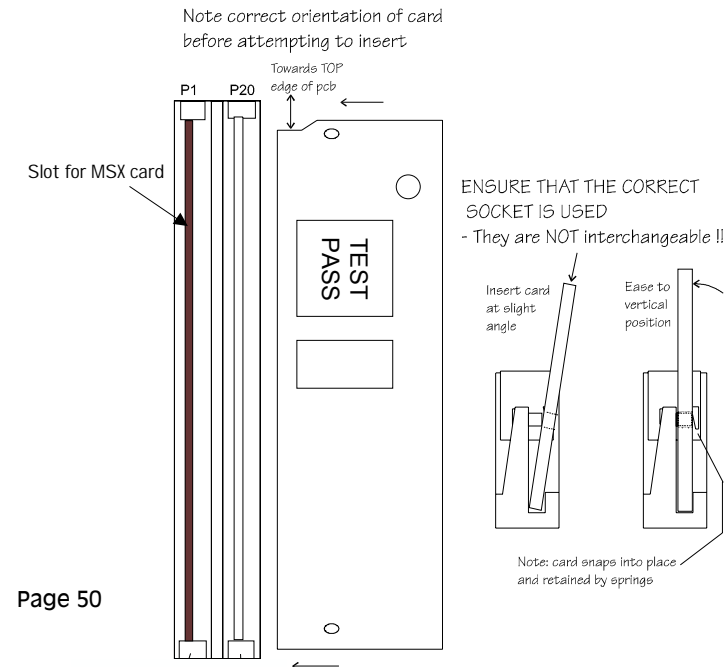
APPENDIX: Summary of Principal Programming Options

INDEX