

## Clipsal 5400/16CB C-Bus™ Enabled Alarm Control Panel

Programming Manual - C-Bus Supplement

**5400/16CB**

C-Bus  
Supplement



**CLIPSAL**  
**HomeSafe**  
The Complete Home Security System

**C-BUS**  
ENABLED

# CLIPSAL 5400/16CB C-Bus™

## Enabled ALARM CONTROL PANEL

### CONTROL PANEL FEATURES

- 8 or 16 alarm zones.
- Supports up to 3 remote LCD or LED keypads.
- 56 user codes can be programmed to operate by keypad PIN, radio key or access card.
- Optional Clipsal Radio Interface for fully integrated wireless security.
- Programmable 2 Area partitioning can split the panel into two independent areas plus a common area.
- Monitor Mode allows partial arming, (eg, perimeter security overnight).
- Day Mode feature allows daytime monitoring of fire doors, cool rooms etc.
- Temporary Day Zone feature allows easy enabling/disabling of Day Mode.
- Keypad Panic feature.
- Keypad Duress feature.
- Two button arming feature.
- Fire Alarm feature with different siren tones.
- Highly flexible zone to output mapping.
- Siren chirp and strobe flash on arming with radio key.
- Quiet chirps option on arm/disarm by radio key.
- True Dynamic Battery Test actively tests the battery under load every hour.
- 4 programmable auxiliary outputs.
- Automatic reset fuses.
- Programmable siren/reset lockout.
- 30 event memory from keypad.
- Standard defaults to suit most applications.
- Easy programming by keypad or 5400S/2 software.
- All programming data is permanently stored in a non-volatile memory.
- All inputs and outputs are heavily protected against lightning and high voltage supply transients.
- Optional output expander.

### DIALLER

- Full remote upload/download by PC and modem using 5400S/2 software.
- Remote control of outputs via telephone.
- Contact ID Format - two 14 digit phone numbers plus one "follow me" number.
- Audible format feature.
- Phone line monitoring (activates output).
- Dialler 'Listen in' option for installers.
- Auto Test calls.
- Pulse or DTMF dialling.
- True dial tone detection.
- Hex programmable client codes.

### FEATURES:

- clipsal 5400/16CB is a Fully Approved C-Bus™ Product
- full compatibility with Clipsal C-Bus™ commands
- 16 easily programmable C-Bus Events
- multiple 5400/16CB events can operate C-Bus devices
  - unsealed zones
  - end of exit delay
  - alarm condition
  - armed or Disarmed state
- compatible C-Bus™ devices can arm the 5400/16CB panel

**This manual covers the C-Bus™ programming options of the 5400/16CB panel. For full 5400/16CB programming information see the Series Installation Manual.**



**It is recommended that the C-Bus connection and configuration is performed by an installer who has attended a C-Bus Training Course.**



**It is possible to configure the panel to send C-Bus commands each time a zone is unsealed (triggered), even when the unit is disarmed.**

**Use this facility with caution (particularly with passive infrared detectors), since the normal operation of some security devices may flood the C-Bus network with excessive communication.**

**A security sensor will, on every time, detect a change within its field of view and trigger the security panel's zone that it is connected to. Depending on the panel's event, put out a command to the C-Bus network via the C-Bus interface.**

**Excessive C-Bus traffic will affect the performance of the C-Bus network. This does not completely negate this type of set up however, it must be limited in its implementation. For example a security sensor that resides in an entry foyer could be used if the event was limited to the panel being armed, such as when it pulses on a courteous light or triggering a "welcome home scene". This would not give any consideration to it being night or day without a logical device ie. Colour Touch or Pascal Logic Unit, residing on the network.**

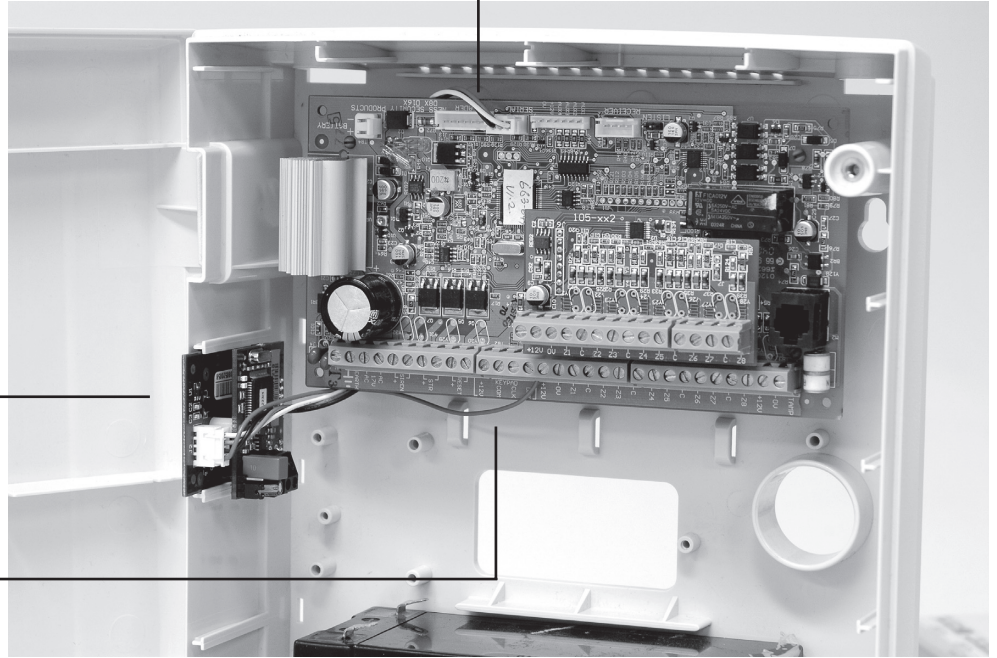
**If a C-Bus PIR was used in this case to achieve the same result, its ambient level could be set to only work when the available natural light was insufficient.**

# C-BUS INTERFACE INSTALLATION

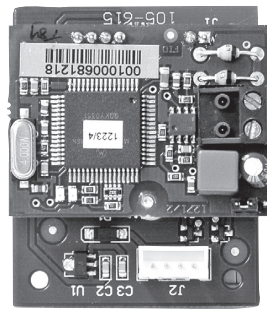
3 pin plug from C-Bus Interface plugs into the RS232 socket on the 5400/16CB board.

C-Bus Interface fits in this left hand slide rail position in the 5400/16CB housing.

RED wire from the C-Bus Interface connects to any +12V terminal on the 5400/16CB board.



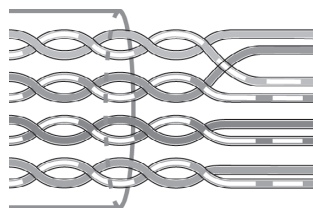
## CLIPSAL C-BUS INTERFACE



- C-Bus Positive (Blue + Orange)
- C-Bus Negative (Blue & White + Orange & White)
- NETWORK BURDEN JUMPER  
This jumper is supplied in the OFF position and can be enabled if the C-Bus Network Burden is required. (Further information is available from Clipsal.)
- 4 Wire Loom for connection to 5400/16CB board.

## C-BUS WIRING

Note that the Clipsal C-Bus interface does not require all the C-Bus wire pairs.



- C-Bus Positive:** Blue + Orange
- C-Bus Negative:** Blue & White + Orange & White

Remote On/Off is not used by the Clipsal C-Bus Interface.

| OPTION   | DESCRIPTION                             | DEFAULT        | YOUR SETTING |
|----------|---|----------------|--------------|
| P150E 1E | C-BUS ENABLE                            | OFF            |              |
| P75E 15E | C-BUS FAILURE DIALLER REPORT            | OFF            |              |
| P167E    | C-BUS ARM APPLICATION ADDRESS           | 56             |              |
| P168E    | C-BUS ARM AREA 1 GROUP ADDRESS          | 255 (disabled) |              |
| P169E    | C-BUS ARM AREA 2 GROUP ADDRESS          | 255 (disabled) |              |
| P170E    | C-BUS ARM AREA 1 & AREA 2 GROUP ADDRESS | 255 (disabled) |              |

### P150E 1E

### C-BUS ENABLE

PROGRAM MODE LEVEL  
Installer, Remote by PC.

FACTORY DEFAULT  
OFF (disabled).

NOTES  
C-Bus operates in normal operating mode only. C-bus messages are disabled if the 5400/16CB is in User or Installer program mode.

This option enables the 5400/16CB C-Bus option.

#### PROGRAMMING SEQUENCE:

Press P150E 1E to toggle the option ON or OFF.

OFF: C-Bus is disabled.

ON: C-Bus is enabled.

### P75E 15E

### C-BUS FAILURE DIALLER REPORT

PROGRAM MODE LEVEL  
Installer, Remote by PC.

FACTORY DEFAULT  
OFF (disabled).

NOTES

This option enables the reporting by dialler of a "C-Bus Failure" message. If messages between the 5400/16CB and the C-Bus have stopped for any reason, the 5400/16CB will attempt to reconnect and then report a "C-Bus Failure" message if reconnection fails.

Press P75E 15E to toggle the option ON or OFF.

OFF: C-Bus failure Dialler report is disabled.

ON: C-Bus failure Dialler report is enabled.

## ARMING WITH C-BUS LIGHTING-LIKE APPLICATION "ON" COMMAND

Options P167E-P170E allow any combination of Area 1 or Area 2 to be armed using a lighting application ON command. These Program options set the C-Bus Application Address and the Group Address of the Lighting Application. When an ON command is received from these addresses, the different Area combinations will arm.

### P167E

### C-BUS ARM APPLICATION ADDRESS

**PROGRAM MODE LEVEL**  
Installer, Remote by PC.

**FACTORY DEFAULT**  
56 (default lighting application).

**NOTES**  
See P168E to P170E to set the Group address needed to arm Areas.

This sets the application address for the C-Bus ON commands that can ARM the panel. The Application Address has the range of 48 to 95 (\$30 to \$5F). Enter a 2 digit number within this range to program the option.

**PROGRAMMING SEQUENCE:**  
Press P167E xxE (xx = 48 to 95)

### P168E

### C-BUS ARM AREA 1 GROUP ADDRESS

**PROGRAM MODE LEVEL**  
Installer, Remote by PC.

**FACTORY DEFAULT**  
255 (no address).

**NOTES**  
1. Area 1 will only arm if zones have been assigned to it. See option P45E in the 5400/16CB Installation Manual.  
2. The shortcut Area 1 arming option P62E 5E must be ON.

This sets the Group address for the C-Bus ON command that can ARM Area 1 of the panel. Enter a 3 digit number between 0 to 255 to set the address. An address of 255 will turn OFF the option. The P167E Application Address may also have to be set if the default application is not being used.

**PROGRAMMING SEQUENCE:**  
Press P168E xxxE (xxx = 000 to 255)

### P169E

### C-BUS ARM AREA 2 GROUP ADDRESS

**PROGRAM MODE LEVEL**  
Installer, Remote by PC.

**FACTORY DEFAULT**  
255 (no address).

**NOTES**  
1. Area 2 will only arm if zones have been assigned to it. See option P46E in the 5400/16CB Installation Manual.  
2. The shortcut Area 2 arming option P62E 6E must be ON.

This sets the Group address for the C-Bus ON command that can ARM Area 2 of the panel. Enter a 3 digit number between 0 to 255 to set the address. An address of 255 will turn OFF the option. The P167E Application Address may also have to be set if the default application is not being used.

**PROGRAMMING SEQUENCE:**  
Press P169E xxxE (xxx = 000 to 255)

### P170E

### C-BUS ARM AREA 1 & AREA 2 GROUP ADDRESS

**PROGRAM MODE LEVEL**  
Installer, Remote by PC.

**FACTORY DEFAULT**  
255 (no address).

**NOTES**  
1. Area 1 and Area 2 will only arm if zones have been assigned to them. See option P45E and P46E in the 5400/16CB Installation Manual.  
2. The shortcut Area 1 and Area 2 arming options P62E 5E and 6E must be ON.  
3. This arms using the C-Bus User Code (User 56), which must be set up to allow Area 1 and/or Area 2 arming.

This sets the Group address for the C-Bus ON command that can ARM Area 1 and/or Area 2 of the panel. Enter a 3 digit number between 0 to 255 to set the address. An address of 255 will turn OFF the option.

The P167E Application Address may also have to be set if the default application is not being used.

**PROGRAMMING SEQUENCE:**  
Press P170E xxxE (xxx = 000 to 255)

← To program User Code 56 for Area1 & Area2 arming. In installer program mode, press P256E EXCLUDE E 1E 2E

# P151E – P166E

# C-BUS OUTPUT EVENTS

PROGRAM MODE LEVEL  
Installer, Remote by PC.

FACTORY DEFAULT  
No events

NOTES  
Allowed digits are 0 to 9.  
The number of digits is either 8 or 11 depending on whether the value [aaa] is used - relevant to a particular control message.

The 5400/16CB can be programmed to send up to 16 C-Bus control messages when different 5400/16CB events occur.

These program options set the 5400/16CB event to the required C-Bus function output.

PROGRAMMING SEQUENCE: PxxxE eeAffiii[aaa] E

## PROGRAMMING VARIABLES DESCRIPTION

|       |  |
|-------|--|
| PxxxE | The 5400/16CB option number of the 16 available Output Events. (P151E to P166E).                                     |
| ee    | The 5400/16CB EVENT which will trigger a C-Bus event.  |
| A     | The APPLICATION IDENTITY of the device being controlled. (i.e, Lighting Control, Trigger Control or Enable Control). |
| ff    | FUNCTION (i.e, what the C-Bus devices will do).  |
| iii   | The C-Bus GROUP ADDRESS number for the devices being controlled.   |
| aaa   | VALUE. (Such as seconds, minutes or percent where relevant).   |

## DIGITS DESCRIPTION

|     |  |
|-----|--|
| xxx | PROGRAMMING OPTION P151E TO P166E (Output Events 1 to 16). |
|-----|--|

|       |  |
|-------|--|
| ee    | 5400/16CBx EVENT.  |
| 01-16 | Zone 1-16 unsealed, irrespective of panel armed or disarmed. |
| 41-56 | Zone 1-16 unsealed & panel Armed AREA 1 or AREA 2.           |
| 71-86 | Zone 1-16 unsealed & panel FULLY Disarmed.                   |
| 96    | End of exit delay.   |
| 97    | Alarm.   |
| 98    | Panel Disarmed.  |
| 99    | Panel Armed.   |

|   |                              |
|---|------------------------------|
| A | APPLICATION IDENTITY.        |
| 1 | Lighting Application.        |
| 2 | Trigger Control Application. |
| 3 | Enable Control Application.  |

|    |   |                          |                           |
|----|---|--------------------------|---------------------------|
| ff | FUNCTION (For more information, see the relevant application document from Clipsal) |                          |                           |
|    | A=1<br>(LIGHTING APPLICATION)   | A=2<br>(TRIGGER CONTROL) | A=3<br>(ENABLE CONTROL)   |
| 00 | OFF*  | TRIGGER MIN*             | N/A                       |
| 15 | ON*   | TRIGGER MAX*             | N/A                       |
| 16 | Pulse ON for aaa seconds  | N/A                      | N/A                       |
| 17 | Pulse OFF for aaa seconds   | N/A                      | N/A                       |
| 18 | Pulse ON for aaa minutes  | N/A                      | N/A                       |
| 19 | Pulse OFF for aaa minutes   | N/A                      | N/A                       |
| 20 | Ramp instantaneous to aaa %   | Triggers action aaa      | Sets network variable aaa |
| 21 | 4 sec ramps light to aaa%   | N/A                      | N/A                       |
| 22 | 8 sec ramps light to aaa%   | N/A                      | N/A                       |
| 23 | 12 sec ramps light to aaa%  | N/A                      | N/A                       |
| 24 | 20 sec ramps light to aaa%  | N/A                      | N/A                       |
| 25 | 30 sec ramps light to aaa%  | N/A                      | N/A                       |
| 26 | 40 sec ramps light to aaa%  | N/A                      | N/A                       |
| 27 | 1 min ramps light to aaa%   | N/A                      | N/A                       |
| 28 | 1.5 min ramps light to aaa%   | N/A                      | N/A                       |
| 29 | 2 min ramps light to aaa%   | N/A                      | N/A                       |
| 30 | 3 min ramps light to aaa%   | N/A                      | N/A                       |
| 31 | 5 min ramps light to aaa%   | N/A                      | N/A                       |
| 32 | 7 min ramps light to aaa%   | N/A                      | N/A                       |
| 33 | 10 min ramps light to aaa%  | N/A                      | N/A                       |
| 34 | 15 min ramps light to aaa%  | N/A                      | N/A                       |
| 35 | 17 min ramps light to aaa%  | N/A                      | N/A                       |

|     |   |
|-----|---|
| iii | GROUP ADDRESS in Decimal Format (ie. identity group address, identity trigger group, identity variable number). 000-255 |
|-----|---|

|     |  |
|-----|--|
| aaa | VALUE or Action Selector depending on the setting of A.<br>Seconds or minutes (000-255) or percent (000-100) where relevant.<br>* Applications marked with an asterix* do not require a value. |
|-----|--|

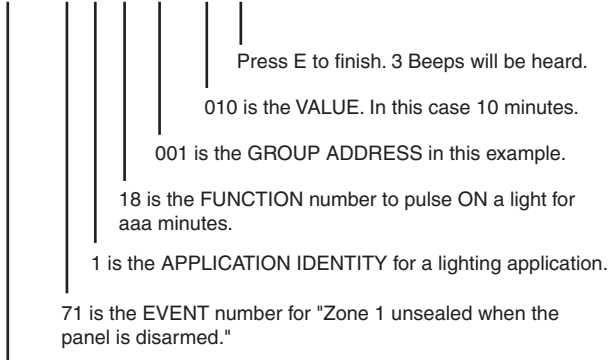
## C-BUS OUTPUT EVENTS

### EXAMPLE 1

For example, if you wanted to program Output Event 1 to turn on a light (ie, Group 001) for 10 minutes when zone 1 is unsealed and the 5400/16CB is disarmed.

In installer program mode, press:

P151E 71 1 18 001 010 E



P151E is the PROGRAMMING OPTION for Output Event 1.

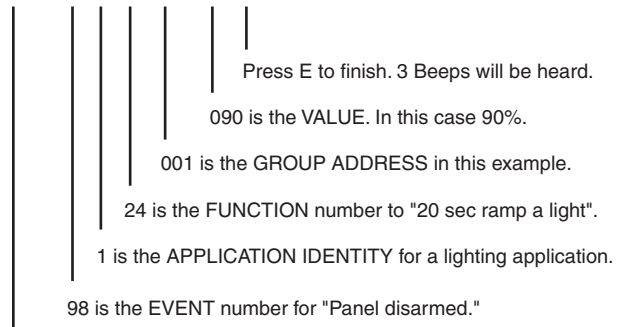
## C-BUS OUTPUT EVENTS

### EXAMPLE 2

For example, if you wanted to program Output Event 2 to do a 20 second ramp of a light to 90% when the 5400/16CB is disarmed.

In installer program mode, press:

P152E 98 1 24 001 090 E



P152E is the PROGRAMMING OPTION for Output Event 2.

| INSTALLER'S PROGRAMMING RECORD |                   |             |               |                |                      |              |  |  |  | NOTES |
|--------------------------------|-------------------|-------------|---------------|----------------|----------------------|--------------|--|--|--|-------|
| Output Event No.               | xxx<br>Option No. | ee<br>Event | A<br>Identity | ff<br>Function | iii<br>Group Address | aaa<br>Value |  |  |  |       |
| 1                              | P151E             |             |               |                |                      |              |  |  |  |       |
| 2                              | P152E             |             |               |                |                      |              |  |  |  |       |
| 3                              | P153E             |             |               |                |                      |              |  |  |  |       |
| 4                              | P154E             |             |               |                |                      |              |  |  |  |       |
| 5                              | P155E             |             |               |                |                      |              |  |  |  |       |
| 6                              | P156E             |             |               |                |                      |              |  |  |  |       |
| 7                              | P157E             |             |               |                |                      |              |  |  |  |       |
| 8                              | P158E             |             |               |                |                      |              |  |  |  |       |
| 9                              | P159E             |             |               |                |                      |              |  |  |  |       |
| 10                             | P160E             |             |               |                |                      |              |  |  |  |       |
| 11                             | P161E             |             |               |                |                      |              |  |  |  |       |
| 12                             | P162E             |             |               |                |                      |              |  |  |  |       |
| 13                             | P163E             |             |               |                |                      |              |  |  |  |       |
| 14                             | P164E             |             |               |                |                      |              |  |  |  |       |
| 15                             | P165E             |             |               |                |                      |              |  |  |  |       |
| 16                             | P166E             |             |               |                |                      |              |  |  |  |       |

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