

## WARRANTY

1. The benefits conferred herein are in addition to, and in no way shall be deemed to derogate; either expressly or by implication, any or all other rights and remedies in respect to this Clipsal Electronic Product, which the consumer has under the Commonwealth Trade Practices Act or any other similar State or Territorial laws.
2. The Warrantor is **Gerard Industries Pty Ltd** 12 Park Terrace, Bowden, South Australia, 5007. Telephone (08) 8269 0511.  
With registered offices in all Australian States.  
**NSW** 122 Canterbury Road, Padstow 2200. Telephone (02) 9794 9200.  
**VIC** 83 - 89 Queens Parade, North Fitzroy 3068.  
Telephone (03) 9207 3200.  
**QLD** Brisbane - 919 Nudgee Road, Nudgee 4014. Telephone (07) 3244 7470.  
Townsville - 5 Leyland Street, Garbutt 4701. Telephone (07) 4725 1822  
**NT** 16 Albatross Street, Winnellie 0820. Telephone (08) 8947 0278.  
**WA** 23 Truganina Road, Malaga 6062. Telephone (08) 9442 4444.  
**TAS** Hobart - 55 Lampton Avenue, Derwent Park 7009.  
Telephone (03) 6272 3177.  
Launceston - 63 Boland Street, Launceston 7250.  
Telephone (03) 6331 6951.
3. This Clipsal Electronic Product is guaranteed against faulty workmanship and materials for a period of two (2) years from the date of installation.
4. Gerard Industries Pty Ltd reserves the right, at its discretion, to either repair free of parts and labour charges, replace or offer refund in respect to any article found to be faulty due to materials, parts or workmanship.
5. This warranty is expressly subject to the Clipsal Electronic Product being installed, wired, tested, operated and used in accordance with the manufacturer's instructions.
6. All costs of a claim shall be met by Gerard Industries Pty Ltd, however, should the product that is the subject of the claim be found to be in good working order, all such costs shall be met by the claimant.
7. When making a claim the consumer shall forward the Clipsal Electronic Product to the nearest office of Gerard Industries Pty Ltd together with adequate particulars of the defect within 28 days of the fault occurring.

### Product of Gerard Industries Pty Ltd

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Facsimile (08) 8340 1724

F1438

**CLIPSAL**  
ELECTRONIC

## Ultrasonic/Infrared Motion Detector

### Installation Instructions

**752/225CUI**

*Please leave with customer*



## COMMON SENSE TROUBLE SHOOTING

- PROBLEM** The power is restored. Both the red and green LEDs do not blink when making motion.
- Solution A** Adjust sensitivity and set level to a higher setting as required by observing red and green LEDs.
- Solution B** Remove sensor and measure if 24V d.c. is present between red and black leads. If no voltage is present, check power connection and power/switch pack. If voltage is present, replace sensor with new one and send defective sensor to Gerard Industries Pty Ltd.
- Problem** Lights are on continuously and do not shut off when no one is present.
- Solution** Re-check all your connections then disconnect sensor while power is still on. If lights remain on, this indicates that there is a short in the 752LD Lead connecting the sensor and the power/switch module. Solution to this problem is to replace the 752LD Lead. Check also for external causes such as excessive turbulence (hanging mobiles, etc.). Refer to program selection schedule on page 8 for detector options.
- Problem** Lights will not switch on even after sensor is disconnected and red and blue wires are shorted.
- Solution** This could indicate a broken wire in the 752LD Lead. Next, disconnect the 752LD Lead at the power/switch module and short the pins where the red and blue wires connect. If lights still do not switch on, replace power/switch module after checking if all connections were made correctly.
- Problem** LED blinks but lights will not switch on.
- Solution** Check if sensor is working when bypassing all electronics. This can be done by inserting the key provided with each unit. If lights switch on, replace defective sensor.
- Problem** After all connections are verified, lights stay on when no one is present, and from time to time LED blinks.
- a) Red LED blinks. b) Green LED blinks.
- Solution A** Red LED blinks. Check for hot air turbulence and mask lens for PIR detection in accordance with figure on page 6.
- Solution B** Green LED blinks (ultrasonic). Turn sensitivity adjustment to a lower setting and/or physically rotate sensor by 90°. (Refer to page 8.)

## TECHNICAL SPECIFICATIONS

**Model** Ultrasonic/Infrared Motion Detector

**Time Delay Adjustment** Variable from approximately 30 seconds to 30 minutes.

**Coverage** 360 degrees (walking) = 15m x 15m, (motion at desk) = 10m x 10m (Note: mounted in classroom with 3m ceiling height)

**Room Size Adjustment** Sensitivity adjustment for ultrasonic detection DIP switch programming is provided for small room and large room independent for PIR and ultrasonic detection.

**Programmable DIP Switch** For dual sensor program selection.

**Bypass Override Function** Logic key or paper clip. Only for emergency use.

**Walk Test Indicator** Red LED = PIR; Green LED = ultrasonic.

**Ambient Ranges** Temperature Operating = (0 degrees to 50 degrees celsius) Humidity - 0-95% RH noncondensing.

**Colour** White

**Enclosure** High-impact U.L. approved material with base to comply with all flammability rating standards.

**Description** Diameter: 125mm, Body Depth with Dome 64mm, Weight 200g.

### 752 Power Supply and Switched Module

#### TECHNICAL SPECIFICATIONS

**Operating Voltage Range** :192Va.c. min.- 265Vac. max.

**Operating Frequency** :50Hz

**Power Consumption** :7VA Max. @ 240V

**Peak Pulsating d.c. Voltage** :38V max.

**Output @ 240V a.c. Input (no load)**

**Continuous d.c. Load Current Allowed** :100mA max

**Switched Active Contact Rating (N.O.)** :7.5A max. suitable for fluorescent, inductive and incandescent loads.

**Operating Temperature Range** 0°C min. - 50°C max.

**Number of 752 Series Motion Detectors allowed to connect** :One

## INTRODUCTION

The Clipsal 752/225CUI automatic sensing device is a dual technology motion detector.

The significant feature of the 752/225CUI is that it uses both ultrasonic and passive infrared technologies to perform the ultimate task of sensing, employing a programmable dip switch for the actual environmental conditions.

This means that combinations of both ultrasonic and infrared can be programmed to suit the actual conditions of the environment resulting in ultimate performance.

## HOW IT WORKS

### I. ULTRASONIC DETECTION

The 752/225CUI consists of a transmitter and a receiver transducer to provide total volumetric sensing with no blind spots.

### II. PASSIVE INFRARED DETECTION

The 752/225CUI consists of four PIR detectors which are specially aimed to all four corners of the room to ensure the farthest distances of the room are covered. The 752/225CUI can detect an area up to 15m x 15m (225m<sup>2</sup>).

The sensor operates on 24V d.c. and is designed to work with the 752PR power pack and relay switching module (supplied).

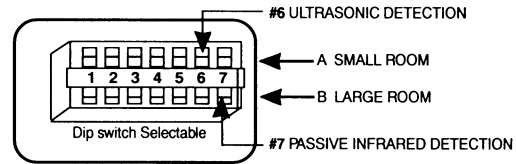
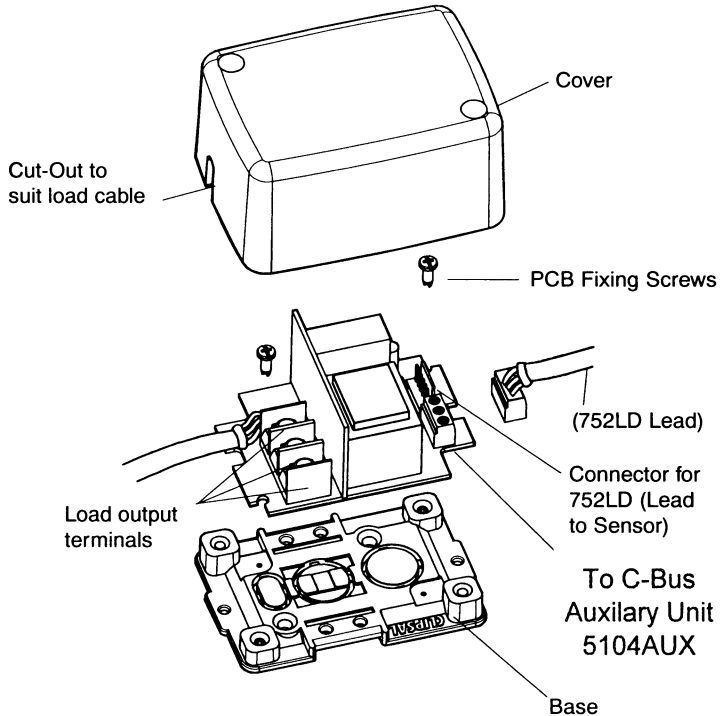
When someone enters a room in which the sensor controls the lighting, the lights are turned on automatically. The signal derived activates an adjustable timer (30 seconds to 30 minutes), which in turn activates an electrical relay in the power pack, turning the lights on.

If no movement or presence is detected for the time selected, the relay de-energises, turning the lights off.

The device has a C-Bus Auxiliary unit connection terminal which is to be connected only to a C-bus 5104AUX unit.

## IDENTIFICATION OF PARTS

### POWER SUPPLY



Program selection of #6 and #7 are selection of either large rooms or small rooms as listed below:

**#6 ULTRASONIC DETECTION** A. Small Room (36m<sup>2</sup> or less) B. Large Room (up to 93m<sup>2</sup>)

**#7 PASSIVE INFRARED DETECTION** A. Small Room (36m<sup>2</sup> or less) B. Large Room (up to 93m<sup>2</sup>)

### COMMISSIONING

Set the timer delay to suit, as per the table below:

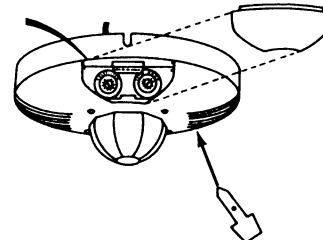
#### TIME DELAY TABLE

EXAMPLE OF TIMER SETTINGS IN MINUTES

Stock Room	= #15
Hallway	= #10
Restroom	= #7
Office	= #8
Classroom	= #9

**Note:** For areas larger than 10m<sup>2</sup>, set timer adjustment to #5 and perform walk testing using the actual light fixtures. After the walk testing is completed, set timer adjustment to #15.

### LOGIC BYPASS FUNCTION



Set sensitivity adjustment to suit as per size of the room, shown below:

#### APPROXIMATE SENSITIVITY ADJUSTMENT

##### Ultrasonic Detection

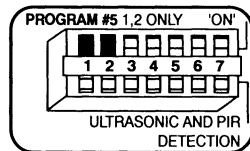
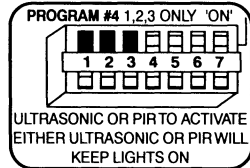
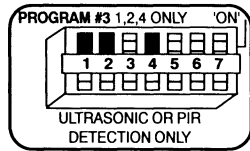
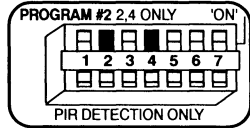
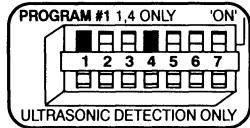
10m <sup>2</sup> room	= #1
27m <sup>2</sup> room	= #2
46m <sup>2</sup> room	= #3
65m <sup>2</sup> room	= #4
83m <sup>2</sup> room	= #5
93m <sup>2</sup> room	= #6

**Note:** When making adjustments do not attempt to force adjustment screws past limits.

**Note:** When logic key or paper clip is inserted into the slot, lights will always be on. There is no shock hazard present when using a logic key or a paper clip. This bypass function is for emergency use only.

## COMMISSIONING

Once power has been installed, determine which program selection schedule best suits the application.



## PROGRAM SELECTIONS SCHEDULE

**#1 PROGRAM SELECTION** is used in common office areas. Multi-sensor application using this program selection will enhance the detection that is needed in partitioned office areas. **Note:** This program uses only ultrasonic detection.

**#2 PROGRAM SELECTION** is used in areas in which turbulence such as air draft or high air flow is a problem.

**Note:** a) This program uses only passive infrared detection. b) If environmental conditions are too severe for this program selection, use program selection #5 instead.

**#3 PROGRAM SELECTION** is used in areas in which high sensitivity is needed and no turbulence or adverse environmental conditions exist.

**Note:** This program selection permits maximum sensitivity for dual sensor technology.

**#4 PROGRAM SELECTION** is used in rooms and areas that demand high sensitivity once the room has been occupied, but cannot be falsely triggered by the high turbulence, (hanging mobiles, etc.) such as in classrooms.

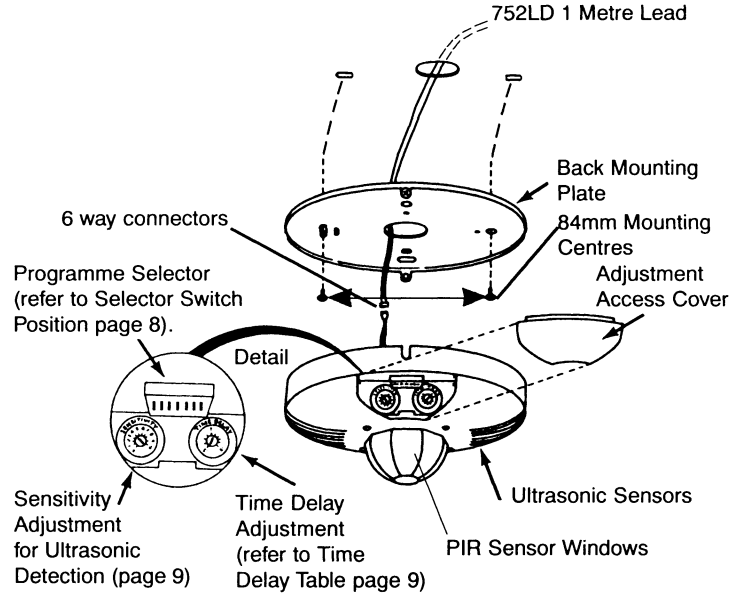
**Note:** Sensitivity increases after lights are switched on.

**#5 PROGRAM SELECTION** is used in areas where turbulent conditions exist in which no other program selection can satisfy.

**Note:** This program selection requires both ultra-sonic and passive infrared detection simultaneously to occur in order to trigger the timing circuit that will ultimately keep the lights on.

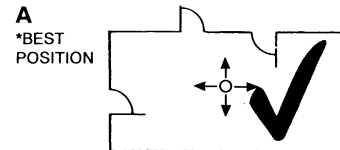
## DETECTOR

(To 752PR Power Supply)

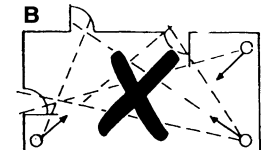


## LOCATION

The best position to mount the sensor is on the ceiling in the centre of the room. It has a nominal coverage of 15m x 15m (225m<sup>2</sup>) with 360° coverage.



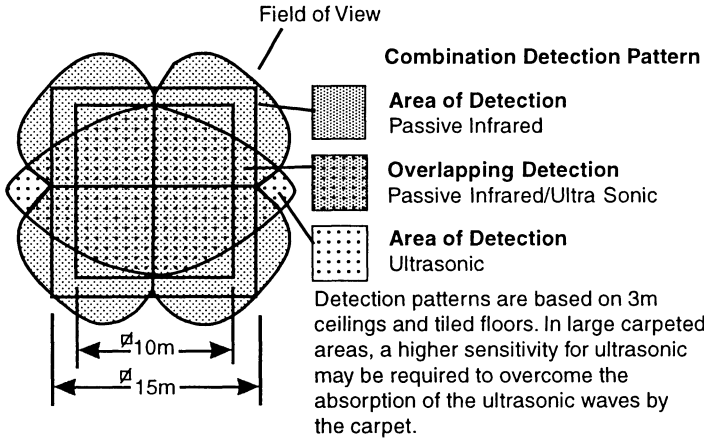
Plan of Room (Example)  
**\*Best Position**



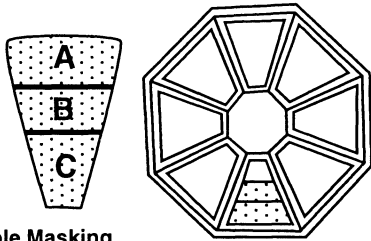
Plan of Room (Example)  
**Incorrect Positions**

**Note:** Do not mount close to objects which can change temperatures rapidly eg. air-conditioning vents, heater flues.

## DETECTION PATTERN



## ELIMINATING UNWANTED DETECTION



### Sample Masking Segments

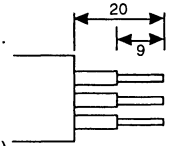
### Masking Instructions

To mask a lens segment, use only the mask supplied with the unit and cover only the lens segment which is viewing the potential problem area, such as an open doorway.

The masks supplied in this package are used to block the detection of PIR when that area is not required.

## MOUNTING PROCEDURE

- Fit power supply in ceiling space within 1 metre of sensor position.  
(Fit surface mount socket or similar for supply from lighting circuit.)
  - Fix base of power supply to beam.
  - Fix PCB to base using screws provided.
  - Fit 752LD (1 metre lead) to connector on PCB at extra low voltage end.
  - Fit load cables to terminals on PCB, stripped to length as shown.
  - Cut out cover as required to suit load cables.
  - Screw cover to base.
- Fit sensor to ceiling in (a predetermined) position.
  - Fix mounting flange to ceiling.
  - Cut hole for 752LD lead cable ( $\varnothing 20$ mm hole).
  - Fit 752LD lead to sensor.
  - Fix sensor to mounting flange and secure using side fixing



## WIRING DIAGRAM

