

**Fire Control Panel**

# Additional Boards

---

**Installation Manual**



## Introduction

This manual describes the Taktis Fire Control Panel Additional Boards.

This section describes:

- Using This Manual
- Related Documentation
- If You Need Help
- Contacting Kentec Electronics

## Using This Manual

The following sections provide instructions for installing, testing and troubleshooting the Taktis Fire Alarm Control Panel Boards:

|  |  |
|--|--|
| <b>Section A: Preface</b>                  | Provides document conventions.                               |
| <b>Section 1: Overview</b>                 | Provides a summary of Additional Board features.             |
| <b>Section 2: Installation</b>             | Describes how to install and set up Additional Boards.       |
| <b>Section 3: Addressing</b>               | Describes how to set the Additional board binary address.    |
| <b>Section 4: 16 Channel I/O board</b>     | Describes PCB layout, board indications & cable connections  |
| <b>Section 5: 8-Way Relay board</b>        | Describes PCB layout, board indications & cable connections  |
| <b>Section 6: 8-Way Conventional board</b> | Describes PCB layout, board indications & cable connections  |
| <b>Section 7: 4-Way Sounder board</b>      | Describes PCB layout, board indications & cable connections  |
| <b>Appendix A: Specifications</b>          | Provides characteristics of the additional boards.           |
| <b>Appendix B: Battery Consumption</b>     | Provides Additional boards battery consumption calculations. |

## Related Documentation

The following documents shall be used to provide additional information for installing the Taktis Fire Alarm Control Panel additional boards:

- Fire Control User Manual – Man-1169
- Fire Control Panel Installation Manual – Man-1154
- I/O Card Installation Instructions – Man-1395
- LE2 Software – Man-TBC

## Additional Board Part Numbers

The table below shows part numbers associated with the Additional Boards:

| Model Name                      | Part Number |
|---------------------------------|-------------|
| <b>16 Channel I/O Board</b>     | K772        |
| <b>8-Way Relay Board</b>        | K791        |
| <b>8-Way Conventional Board</b> | K792        |
| <b>4-Way Sounder Board</b>      | K793        |

## If You Need Help

If you need technical support contact Kentec Electronics at + 44 (0) 1322 222121 or e-mail the department, techsupport@kentec.co.uk. Kentec Electronics technical support is available Monday through Friday, 8:00 AM to 5:00 PM.

## Limited Returns and Repairs Policy

### In-Warranty Items

All equipment supplied by Kentec Electronics is provided with a warranty, as defined in Section 8 (Warranties & Liability) of the Terms and Conditions of Sale. These warranties are between Kentec Electronics (the Seller) and the company that placed the order upon the seller (the Buyer). The warranty period is valid for 36 months from the delivery date and is non-transferable.

### Damaged Goods

In the event of damage to equipment during transit or any defect in the quality of goods, the Buyer shall notify Kentec Electronics within seven days of delivery as detailed in Section 8.5 of the Terms & Conditions of Sale. The goods may then be returned to the Customer Service Department of Kentec Electronics Ltd. for repair, or replacement parts may be supplied (by arrangement).

### Service Replacement Items

The Buyer shall request the replacement part(s) required from the Customer Service Department. This request shall be made by e-mail to sales@kentec.co.uk and shall include the parts required, the panel Works Order (W/O) Number and the required delivery address. If the Buyer is not aware of the required replacement part(s), additional advice may be obtained from the Technical Support Department of Kentec Electronics. Once the SRI has been approved, items are normally dispatched for next day delivery within the mainland UK, subject to stock availability. SRI parts are supplied on the following terms and conditions:

- SRI parts are loan items and are not available for resale.
- At all times, Kentec Electronics. retains the title of SRI parts supplied, as detailed in Section 7.4 of the Terms and Conditions of Sale.
- All SRI parts must be returned to the Customer Service department of Kentec Electronics within 14 days of delivery.
- Any SRI parts that have not been returned within 28 days of delivery will be invoiced at the price given in the Kentec Price List, less discount.
- Any returned items that are found to have failed due to fair wear and tear, willful damage, negligence, abnormal working conditions, misuse or alteration or repair without the Suppliers approval or failure to follow the sellers instructions will be subjected to a repair fee of up to the price given in the Kentec Price List, less discount.
- Any returned items that are not part of the original equipment or are not in warranty will be invoiced at the price given in the Kentec Price List, less discount where applicable.
- All SRI parts shall be returned in the same packaging as the replacement parts were supplied in. Failure to ensure that adequate anti-static precautions are taken during the replacement of parts, or in the return of SRI parts may result in an invoice of up to the price given in the Kentec Price List, less discount.
- Any SRI parts returned without the completed SRI delivery report or any SRI reference documentation will be invoiced at the price given in the Kentec Price List, less discount. The right to receive Service Replacement Items is regularly reviewed and may be withdrawn from persistent abusers of this facility. Kentec reserve the right not to supply SRI items without prior notice.

## Out Of Warranty Items

Kentec Electronics provides a test and repair facility for most standard and special build products. This facility can also recondition control panels, subject to availability of components.

## Customer Repairs

Items for repair shall be returned to the Customer Service Department of Kentec Electronics. Any items returned for repair must be accompanied with the following:

- A request for repair work to be undertaken
- A customer contact name
- Details of the company requesting repair

Failure to supply the required information will result in the returned items being quarantined for a period not exceeding 60 days. If the items are not identified within 60 days of receipt, then Kentec Electronics Ltd reserves the right to dispose of these items or return them.

A written quotation will be provided for all items to be repaired that are not included in the repair prices section of the Kentec Price list. No repairs or refurbishment will be undertaken without prior authorisation from the customer and a written order for the repair work. Returned equipment will be held awaiting authorisation for a period not exceeding 60 days from the date of quotation. After this period, Kentec Electronics Ltd. reserves the right to dispose of these items or return them.

## Repair Warranties

Repaired items are not covered by the normal Warranties and Liability conditions in the Terms and Conditions of Sale. Subsequent failures of repaired items will only be covered if the failure is due to a material or workmanship defect directly associated with the repair and for a period not exceeding three months from the date of the repair.

Kentec Electronics are under no liability if the repaired or replaced components are found to have failed due to fair wear and tear, wilful damage, negligence, abnormal working conditions, misuse or alteration or repair without approval or failure to follow the sellers instructions.

---

|  |           |
|--|-----------|
| <b>Section 1</b>                                 |           |
| <b>Overview .....</b>                            | <b>1</b>  |
| Additional Board Layout .....                    | 2         |
| Main Back Board Layout .....                     | 3         |
| Extension Board Layout .....                     | 4         |
| Label Sheet .....                                | 5         |
| <b>Section 2</b>                                 |           |
| <b>Installation .....</b>                        | <b>6</b>  |
| General Installation Checklist.....              | 6         |
| Before You Begin .....                           | 6         |
| Installing An Additional Board .....             | 7         |
| Field Terminal Assignments.....                  | 8         |
| Field Terminals.....                             | 8         |
| Extension Board Field Terminal Assignments ..... | 11        |
| Extension Board Field Terminals .....            | 11        |
| <b>Section 3</b>                                 |           |
| <b>Setting the Address .....</b>                 | <b>14</b> |
| DIP Switch Settings.....                         | 14        |
| <b>Section 4</b>                                 |           |
| <b>16 Channel I/O Board .....</b>                | <b>15</b> |
| Inputs .....                                     | 16        |
| Outputs.....                                     | 16        |
| <b>Section 5</b>                                 |           |
| <b>8-Way Relay Board.....</b>                    | <b>17</b> |
| <b>Section 6</b>                                 |           |
| <b>8-Way Conventional Board.....</b>             | <b>18</b> |
| Detection Inputs .....                           | 19        |
| <b>Section 7</b>                                 |           |
| <b>4-Way Sounder Board.....</b>                  | <b>20</b> |
| Sounder Outputs .....                            | 21        |
| <b>Appendix A</b>                                |           |
| <b>Battery Consumption.....</b>                  | <b>22</b> |
| <b>Appendix B</b>                                |           |
| <b>Specifications .....</b>                      | <b>23</b> |
| 16 Channel I/O .....                             | 23        |
| 8-Way Relay.....                                 | 23        |
| 4-Way Sounder .....                              | 23        |
| 8-Way Conventional.....                          | 23        |

**Section 1**  
**Overview**

The Additional Boards further enhance the versatility of the fire alarm system. The Additional Boards available and their typical applications are as follows:

| Model Name                           | Typical Application   |
|--------------------------------------|---|
| <b>16 Channel I/O Board</b>          | Used in applications such as LED floor plan mimic drivers or to receive inputs from plant alarms or other related systems.          |
| <b>8-Way Relay Board</b>             | Used in applications which require more than the four standard relay outputs.   |
| <b>8-Way Conventional Zone Board</b> | Used to integrate the panel with conventional detection systems.  |
| <b>4-Way Sounder Board</b>           | Used in applications that require more than the four standard sounder outputs such as replacement of existing conventional systems. |

The figures below show the Additional Boards.

**Figure 1-1**  
**16 Channel I/O**



**Figure 1-2**  
**8-Way Relay**



**Figure 1-3**  
**8-Way Conventional**



**Figure 1-4**  
**4-Way Sounder**



## Additional Board Layout

The figure below shows common features associated with all additional boards. Familiarise yourself with these features prior to the installation.

**Figure 1-5**  
**Additional Board Common Features**

*16 Channel I/O card shown in this example.*



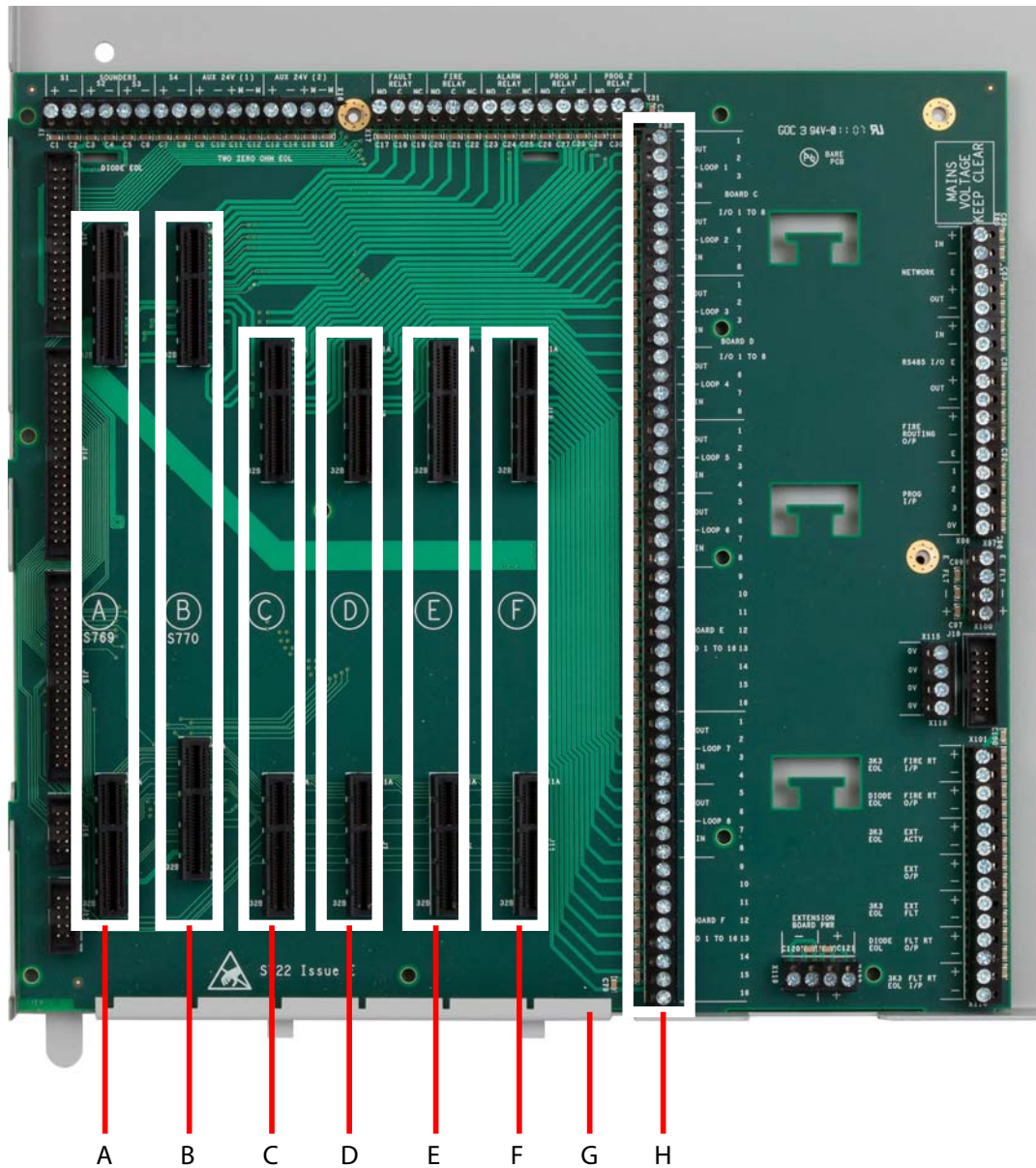
| Key | Description           |
|-----|-----------------------|
| A   | Board slot connection |
| B   | Address dip switch    |
| C   | Board locating notch  |

## Main Back Board Layout

Fitted to all versions of the Fire Control Panel.

The figure below shows the panel main back board layout identifying elements associated with the installation of additional boards.

**Figure 1-6**  
Main back board features



| Key | Description  | Key | Description     |
|-----|--------------|-----|-----------------|
| A   | Board Slot A | E   | Board Slot E    |
| B   | Board Slot B | F   | Board Slot F    |
| C   | Board Slot C | G   | Notch Line      |
| D   | Board Slot D | H   | Field Terminals |

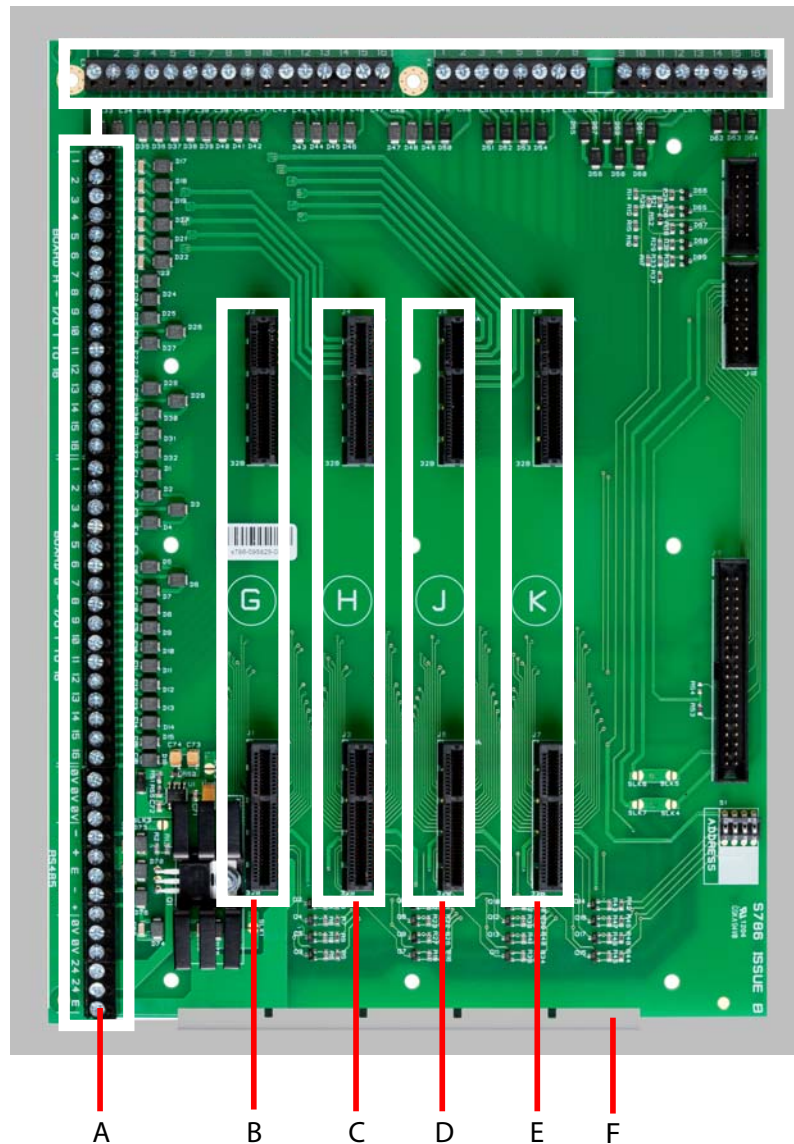


## Extension Board Layout

*Fitted to 2 to 16 loop versions of the panel only.*

The figure below shows the extension board associated with 2 to 16 loop versions of the panel. Where appropriate, familiarise yourself with these elements prior to the installation.

**Figure 1-7**  
Main back board features



| Key | Description     |
|-----|-----------------|
| A   | Filed Terminals |
| B   | Board slot G    |
| C   | Board slot H    |
| D   | Board slot J    |
| E   | Board slot K    |
| F   | Notch Line      |

## Label Sheet

With each additional board are supplied self-adhesive labels. The labels can be stuck to the board (over existing terminal designations) providing terminal designations associated with the additional board fitted.

*Use the appropriate label associated with the Additional Board.*

**Figure 1-8**  
Label sheet (not to scale)

| 4 Way<br>Sounder<br>Plug-in Card | 16 Channel<br>Input / Output<br>Plug-in Card | 8 Way<br>Conventional Z.<br>Plug-in Card | 8 Way<br>Relay<br>Plug-in Card |
|----------------------------------|--|--|--------------------------------|
| Sdr 1 -ve                        | I/O 1  | Z1 +ve                                   | Rly 1 COM                      |
| Sdr 1 +ve                        | I/O 2  | Z1 -ve                                   | Rly 1 NO                       |
| Sdr 2 -ve                        | I/O 3  | Z2 +ve                                   | Rly 2 COM                      |
| Sdr 2 +ve                        | I/O 4  | Z2 -ve                                   | Rly 2 NO                       |
| Sdr 3 -ve                        | I/O 5  | Z3 +ve                                   | Rly 3 COM                      |
| Sdr 3 +ve                        | I/O 6  | Z3 -ve                                   | Rly 3 NO                       |
| Sdr 4 -ve                        | I/O 7  | Z4 +ve                                   | Rly 4 COM                      |
| Sdr 4 +ve                        | I/O 8  | Z4 -ve                                   | Rly 4 NO                       |
| Not used                         | I/O 9  | Z5 +ve                                   | Rly 5 COM                      |
| Not used                         | I/O 10                                       | Z5 -ve                                   | Rly 5 NO                       |
| Not used                         | I/O 11                                       | Z6 +ve                                   | Rly 6 COM                      |
| Not used                         | I/O 12                                       | Z6 -ve                                   | Rly 6 NO                       |
| Not used                         | I/O 13                                       | Z7 +ve                                   | Rly 7 COM                      |
| Not used                         | I/O 14                                       | Z7 -ve                                   | Rly 7 NO                       |
| Not used                         | I/O 15                                       | Z8 +ve                                   | Rly 8 COM                      |
| Not used <b>w</b>                | I/O 16 <b>x</b>                              | Z8 -ve <b>y</b>                          | Rly 8 NO <b>z</b>              |

**Section 2**  
**Installation**

This section provides instructions for installing and addressing the additional boards. For general installation guidance refer to the main panel Installation Instructions.

**General Installation Checklist**

To complete the installation:

1. Retrieve the panel configuration file.
2. Remove the additional card(s) packaging and check the contents.
3. Power down the panel and disconnect the batteries.
4. Set the Additional Board binary address.
5. Fit the Additional Board in the appropriate Main Back Board or Extension Board slot.
6. Attach sticker label to the appropriate field terminals board space (to board above).
7. Make the necessary terminal connections.
8. Connect the batteries and power up the panel.
9. Configure the panel to accept the new board(s) and their required functions.
10. Test the system for correct operation.

**Before You Begin**

Before you begin the installation, take a few minutes to review the installation information, gather the required items, and complete the tasks listed below to make the installation as quick and easy as possible.



The installation must be performed by qualified personnel familiar with electronic components. Electronics within the Taktis panel (and associated boards) are vulnerable to damage from electrostatic discharge. Ground straps should be worn by installing before handling such components to prevent electrostatic damage.

11. Create a plan and checklist before beginning the installation process. Planning can reduce the number of problems that can occur during installation.
12. Verify that you received the following items with the additional board/s

| Item                        | Quantity | Description   |
|-----------------------------|----------|---|
| <b>Additional Board Kit</b> | 1        | The additional board, the installation guide and terminal sticker label   |
| <b>Ground strap</b>         | 1        | It is advised a ground strap is used when handling all panel circuit boards.<br><br><i>A ground strap is not provided with Additional Board kits.</i> |

## Installing An Additional Board

The following steps cover removing the main board cover and fitting an additional board.  
*This process is the same from for 2-8 Loop and 2-16 Loop versions of the panel.*

13. Remove power at the mains and disconnect standby-batteries prior to performing the circuit board installation.
14. Remove the retaining-screw from the cover and then remove the cover from the backplane.

**Figure 2-1**  
Removing the Backplane Cover



15. Remove the circuit board from the protective packaging using adequate electrostatic protection.
16. Point the conductor side of the circuit board toward the backplane.
17. Grasp the circuit board using an index-finger and thumb at the top-corner opposite the conductor-side.
18. Insert the notched-end of the circuit board in the metal guide of the backplane at a 45-degree angle.

**Figure 2-2**  
Inserting Circuit Boards in the Back plane



19. Rotate the circuit board until all conductors are securely inserted into connectors of the backplane.

**Figure 2-3**  
Secure Position for Circuit Boards in the Backplane



## Field Terminal Assignments

Circuit board slot positions on the Main Back Board correspond to specific field terminal locations on the Main Back Board:

The table below shows slots available for additional boards:

| Slot Positions | System Board A | System Board B | 16 Channel I/O | 8-Way Relay | 8-Way Conventional | 4-Way Sounder |
|----------------|----------------|----------------|----------------|-------------|--------------------|---------------|
| A              | ✓              | ✗              | ✗              | ✗           | ✗                  | ✗             |
| B              | ✗              | ✓              | ✗              | ✗           | ✗                  | ✗             |
| C              | ✗              | ✗              | ✗              | ✗           | ✗                  | ✓             |
| D              | ✗              | ✗              | ✗              | ✗           | ✗                  | ✓             |
| E              | ✗              | ✗              | ✓              | ✓           | ✓                  | ✓             |
| F              | ✗              | ✗              | ✓              | ✓           | ✓                  | ✓             |

## Field Terminals

The figures below illustrate slot position and field terminal assignments on the panel, all wiring should be connected to the Field Wiring Terminal Blocks on the Back Board shown below and NOT on any of the individual cards.

*NB: In each example, affix the appropriate sticker label/s to the board (shown inset).*

**Figure 2-4**  
**Board Slot C**

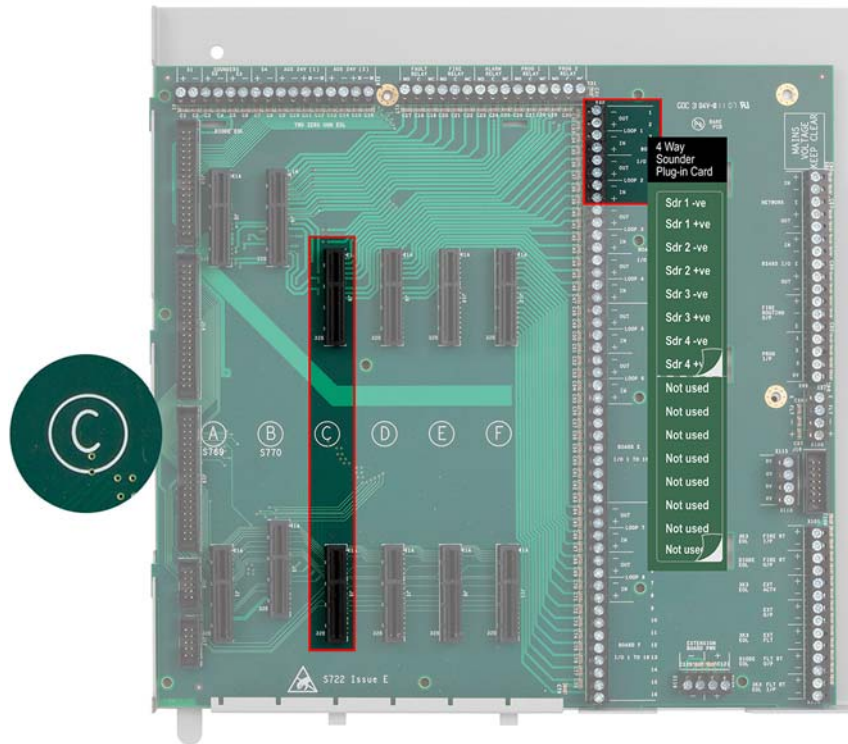


Figure 2-5  
Board Slot D

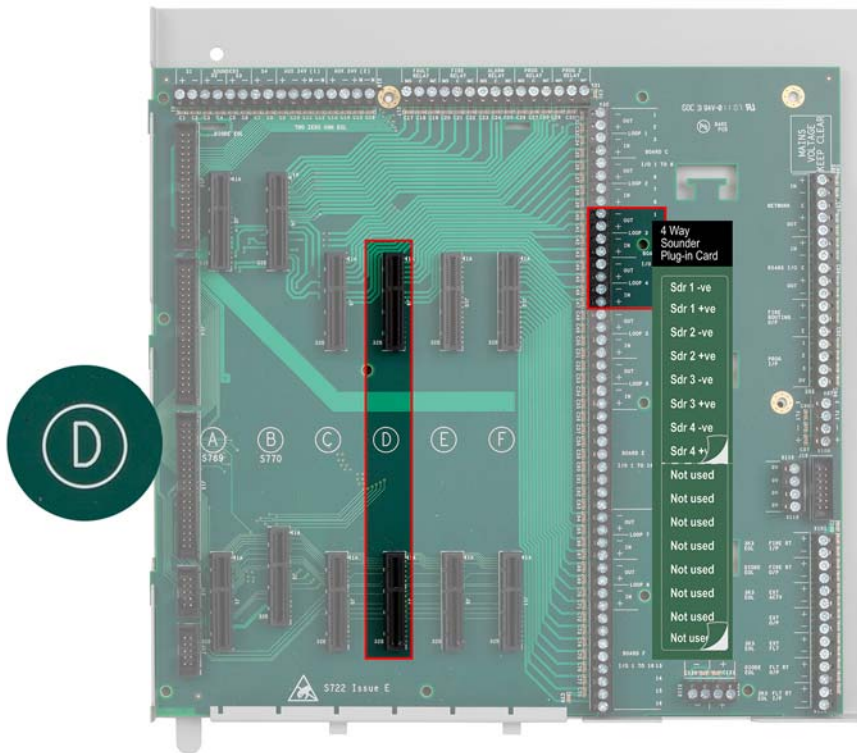


Figure 2-6  
Board Slot E

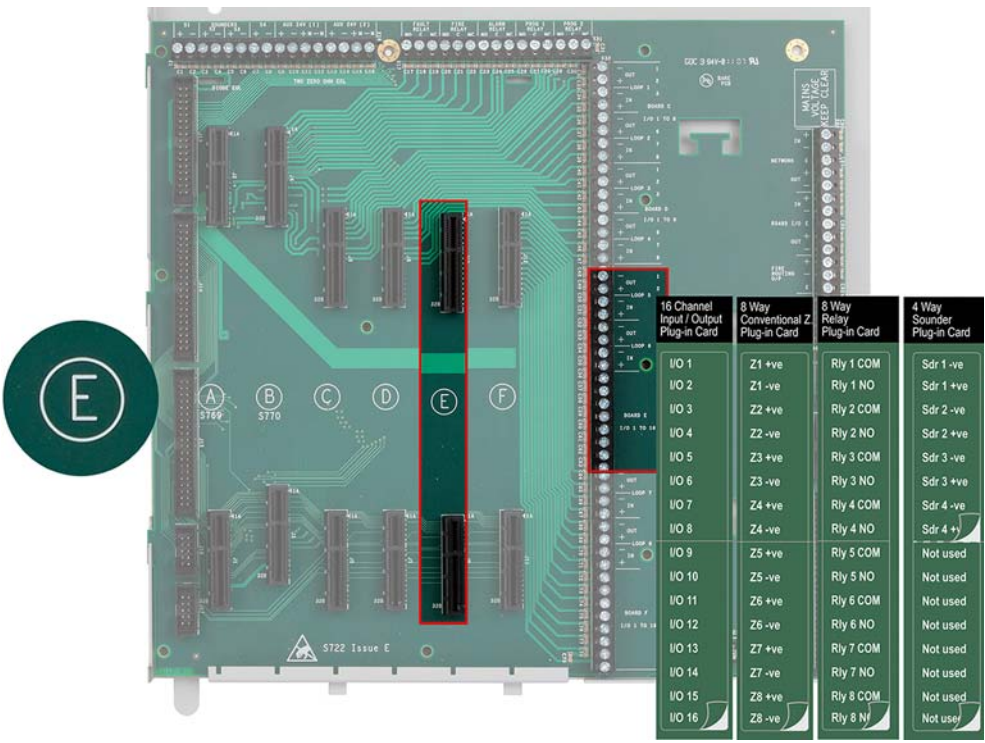
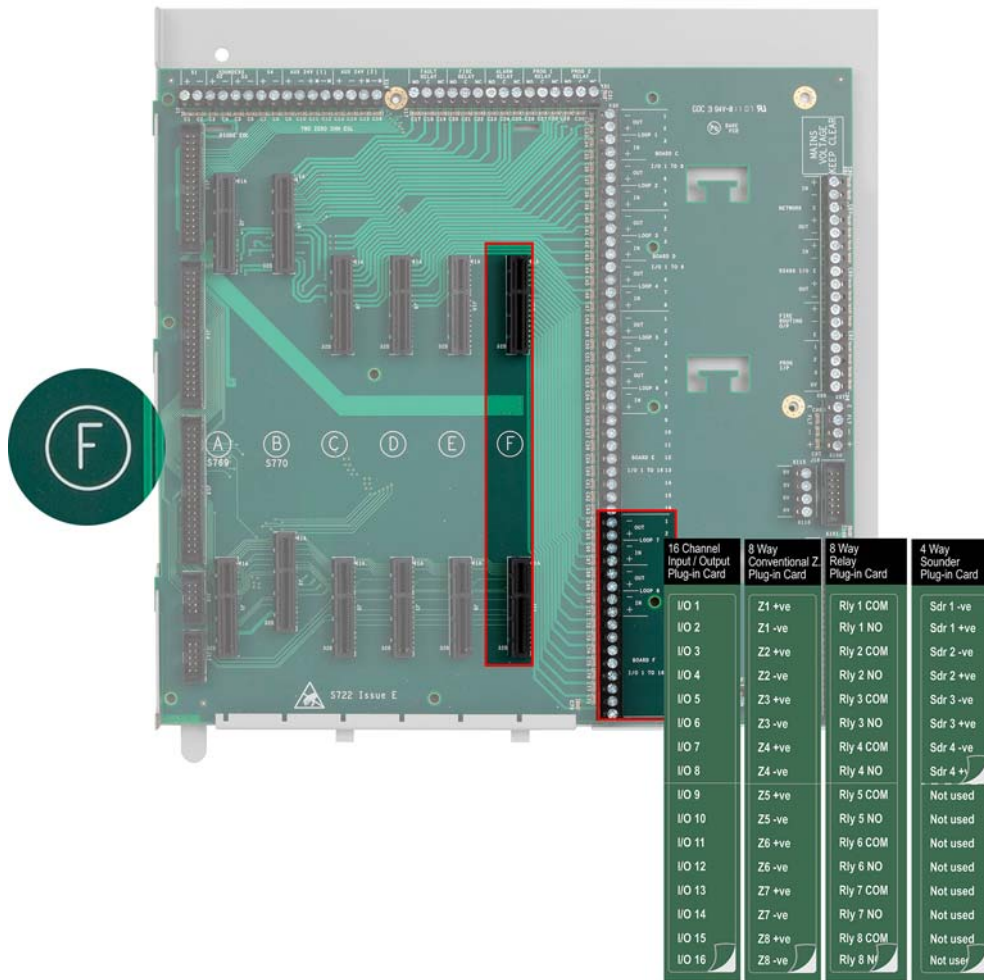


Figure 2-7  
Board Slot F



## Extension Board Field Terminal Assignments

Circuit board slot positions on the Extension Board correspond to specific field terminal locations on the Extension Board:

The table below shows slots available for additional boards:

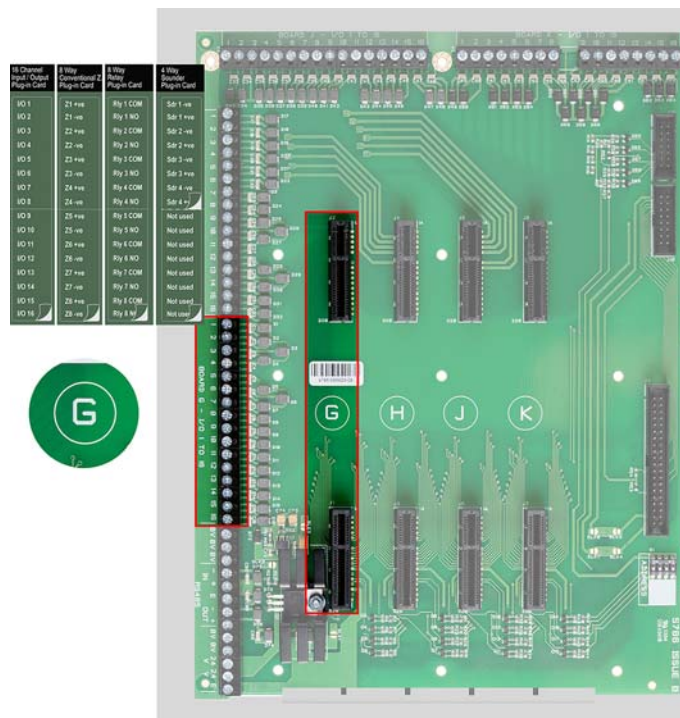
| Slot Positions | System Board A | System Board B | 16 Channel I/O | 8-Way Relay | 8-Way Conventional | 4-Way Sounder |
|----------------|----------------|----------------|----------------|-------------|--------------------|---------------|
| G              | ✗              | ✗              | ✓              | ✓           | ✓                  | ✓             |
| H              | ✗              | ✗              | ✓              | ✓           | ✓                  | ✓             |
| J              | ✗              | ✗              | ✓              | ✓           | ✓                  | ✓             |
| K              | ✗              | ✗              | ✓              | ✓           | ✓                  | ✓             |

## Extension Board Field Terminals

The figures below illustrate slot position and field terminal assignments on the Fire Control Panel, all wiring should be connected to the Field Wiring Terminal Blocks on the Extension Board shown below and NOT on any of the individual cards.

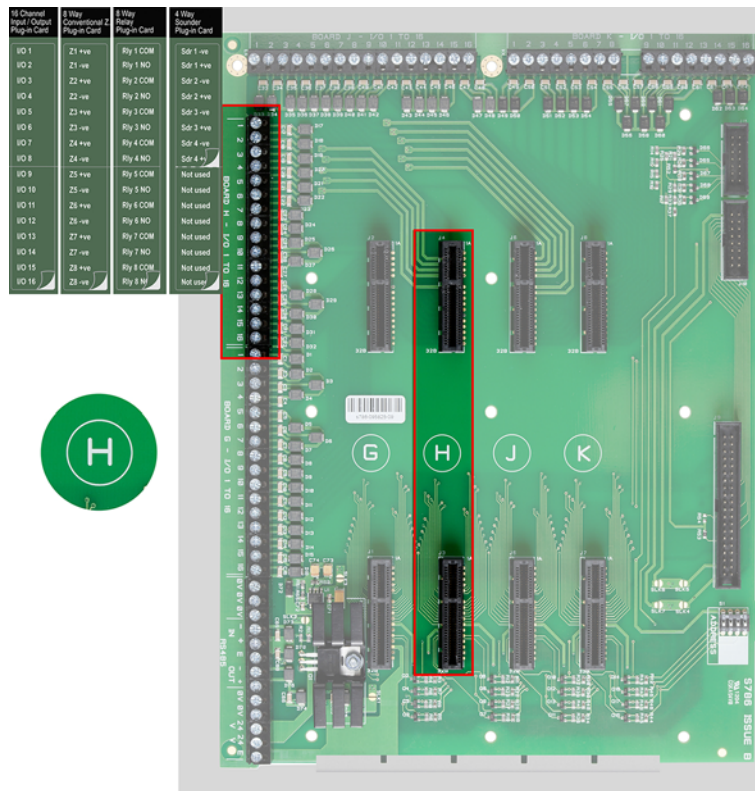
*NB: In each example, affix the appropriate sticker label/s to the board (shown inset).*

**Figure 2-8  
Board Slot G**



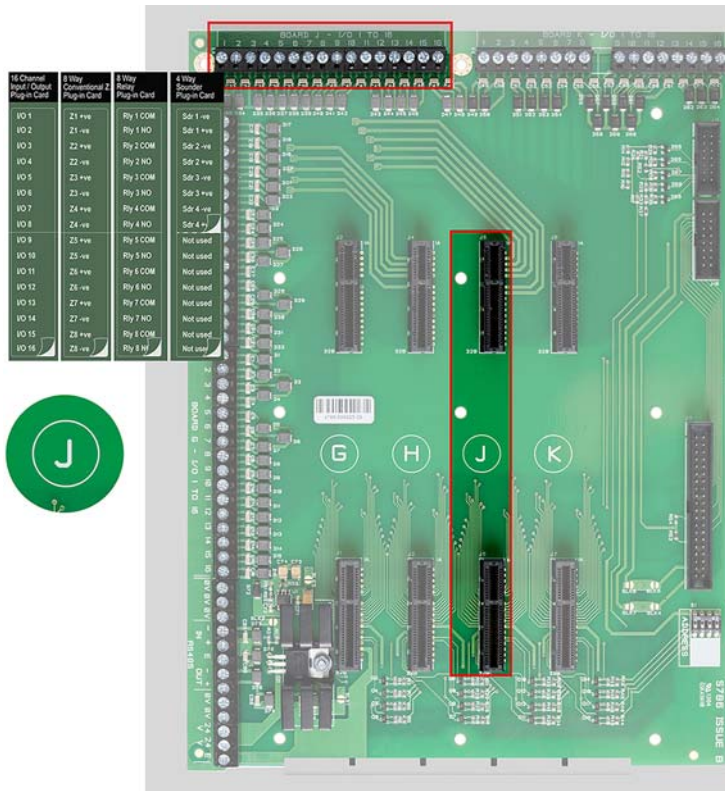


**Figure 2-9**  
Additional Board Slot H

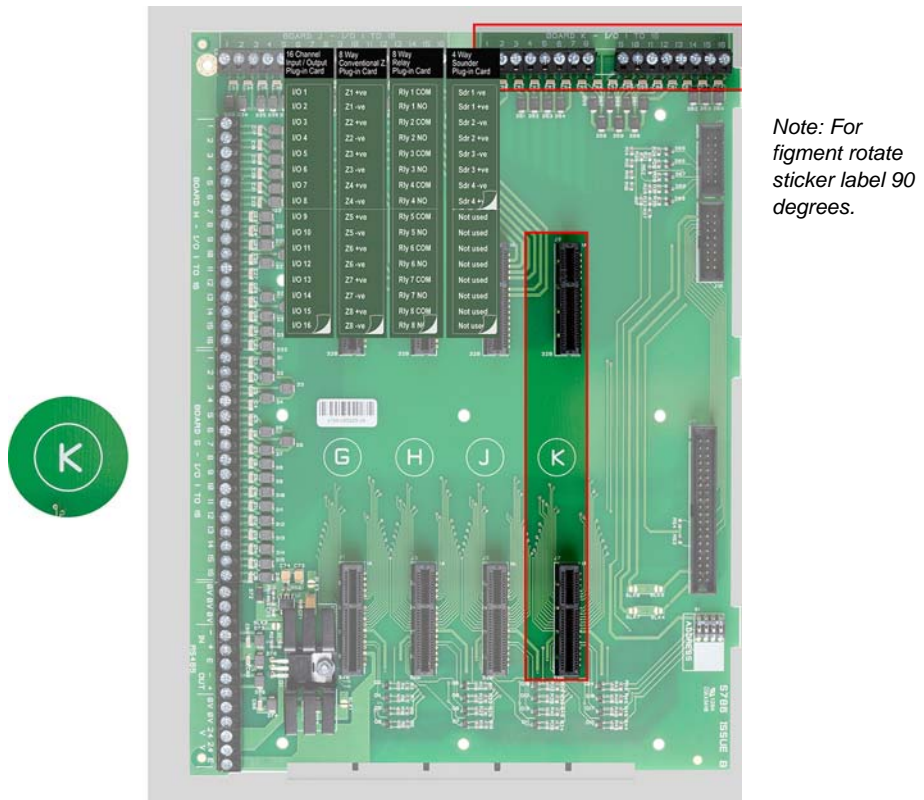


**Figure 2-10**  
Additional Board Slot J

*Note: For figment rotate sticker label 90 degrees.*



**Figure 2-11**  
**Additional Board Slot K**



*Note: For figment rotate sticker label 90 degrees.*

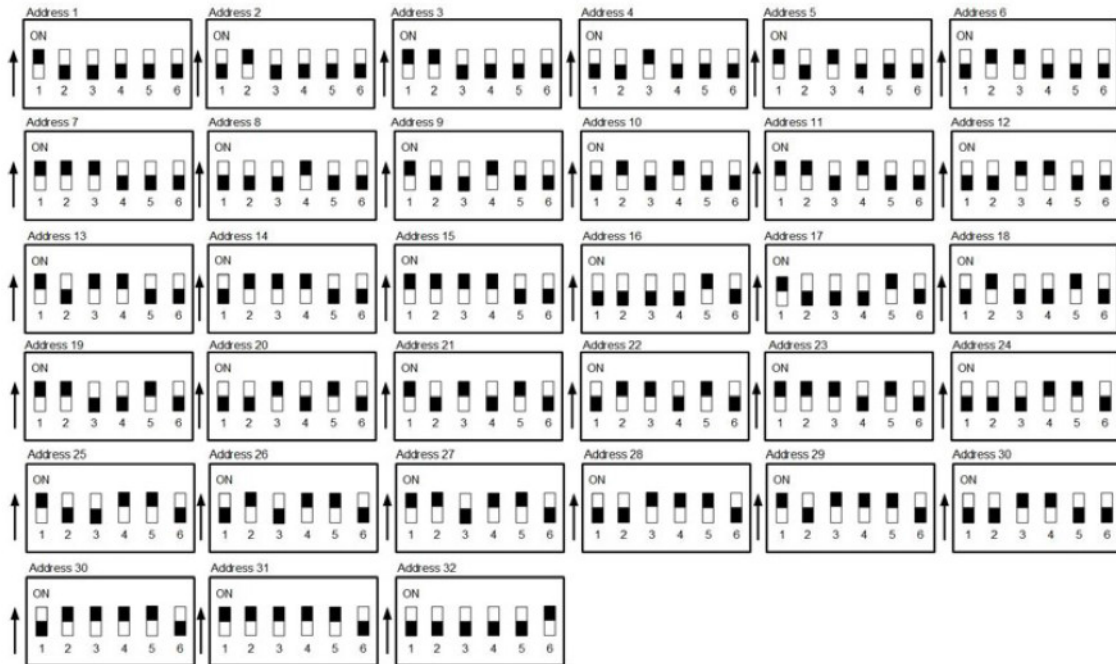
## Section 3

## Setting the Address

Each Additional Board must have its DIP switch set between address 1 and 32 before being fitted to the Main Back Board. The numeric order of the address setting between circuit boards does not impact operation but, each circuit board must be assigned a unique address.

## DIP Switch Settings

Figure 3-1  
Illustrations of binary addresses 1 to 32



Section 4

# 16 Channel I/O Board

The 16 channel I/O (Input/Output) board may occupy one or more slots of the panel main back board or expansion board. Each channel may be configured as an input or an output. Each port provides a means to receive volt free contact inputs or it can provide open collector outputs for control panels.

Figure 4-1  
16 Channel I/O Board



| Key | Description  |
|-----|--|
| A   | Edge connector for termination at slots on Main Back Board slots (E&F) or Expansion Board slots (G-K). |
| B   | Six-position DIP switch SW1 for setting the RS485 bus address of this circuit board.                   |
| C   | LED provide status information – see below.  |
| D   | Connector containing 16 I/O channels.  |

| LED | Description   |
|-----|---|
| 1   | Heartbeat flashes red to identify functional status of the Board. |
| 2   | Rx Comms lights red to identify receiving data.                   |
| 3   | Tx Comms lights green to identify transmitting data.              |
| 4   | Fault lights red to identify an error condition.                  |
| 5   | Fire lights red to identify an alarm condition.                   |
| 6   | Output lights red to identify an output is activated.             |

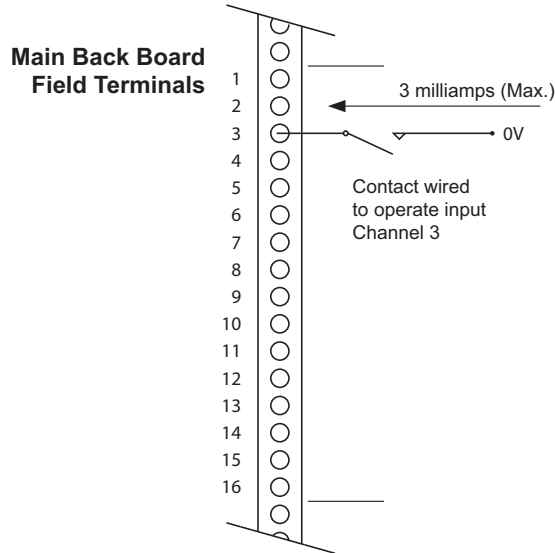
| Terminal Designation* | Input/ Output | Terminal Designation* | Input/ Output |
|-----------------------|---------------|-----------------------|---------------|
| I/O 1                 | 1             | I/O 9                 | 9             |
| I/O 2                 | 2             | I/O 10                | 10            |
| I/O 3                 | 3             | I/O 11                | 11            |
| I/O 4                 | 4             | I/O 12                | 12            |
| I/O 5                 | 5             | I/O 13                | 13            |
| I/O 6                 | 6             | I/O 14                | 14            |
| I/O 7                 | 7             | I/O 15                | 15            |
| I/O 8                 | 8             | I/O 16                | 16            |

\*As displayed on sticker label.

### Inputs

- Inputs to the I/O board are optically isolated and are activated by connecting any of the terminals marked 0V to the input via a contact with a resistance no greater than 500 ohms. The current switched by the contact will be a maximum of 3 milliamps. The figure below shows an example input situation.

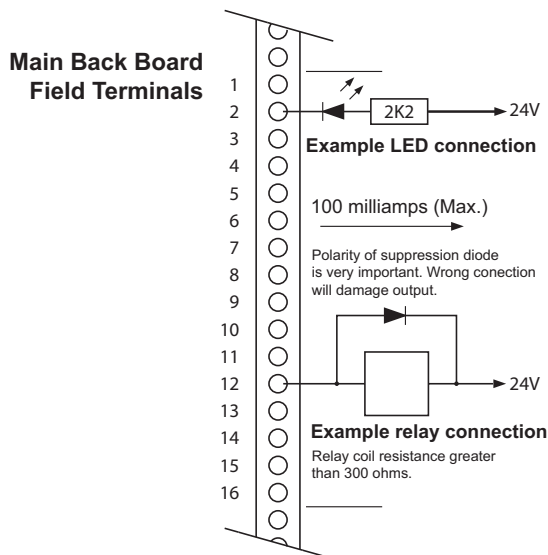
**Figure 4-2**  
Example Input



### Outputs

- When configured as outputs, the I/O board channels supply a negative voltage (with respect to the I/O board 24V power supply) via a transistor.
- Because transistor elements can be damaged by excessive current drain, great care should be taken when connecting to outputs. Particular care should be taken to ensure that suppression diodes on relay coils are correctly polarised. Wrongly connected diodes will damage the outputs. Diodes should be connected with the band to the positive 24V.
- Individual channels can supply current up to 100 milliamps but this must be limited to 500 milliamps for each bank of eight (500 milliamps for 1-8 and 500 milliamps for 9-16).
- The power supply to the I/O board should also be considered to ensure that its rating is not exceeded if multiple channels are switched on.

**Figure 4-3**  
Example Outputs

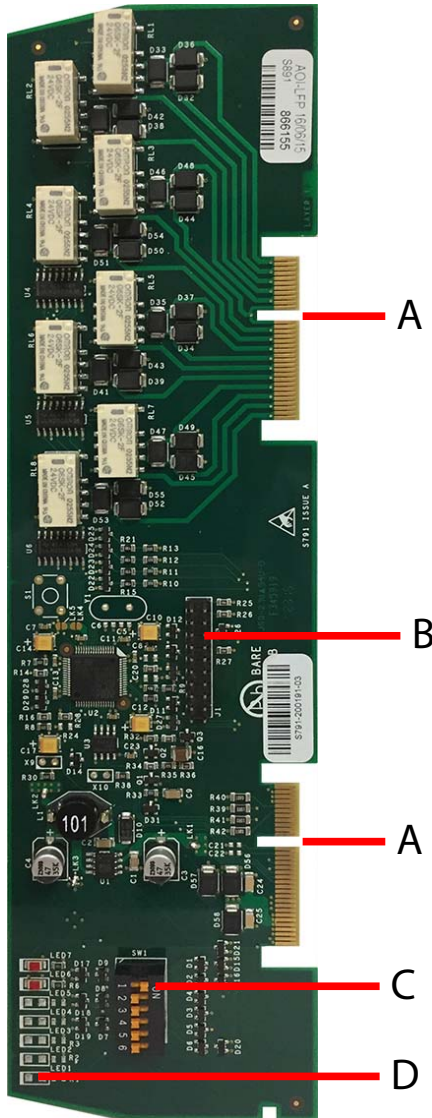


Section 5

# 8-Way Relay Board

The 8-Way relay board may occupy one or more slots of the panel main back board or expansion board. It provides a means to provide programmable, volt free normally open contact outputs. Each channel may be configurable as normally open or normally closed (active/inverted).

Figure 5-1  
8-Way Relay Board



| Key | Description  |
|-----|--|
| A   | Edge connector for termination at slots on Main Back Board slots (E&F) or Expansion Board slots (G-K). |
| B   | Proprietary interface for manufacturing use only.  |
| C   | Six-position DIP switch SW1 for setting the RS485 bus address of the board.                            |
| D   | LED provide status information – see below.  |

| LED | Description   |
|-----|---|
| 6   | Heartbeat flashes red to identify functional status of the Board. |
| 7   | Rx Comms lights red to identify receiving data.                   |
| 3   | Tx Comms lights green to identify transmitting data.              |
| 4   | Not used.   |
| 5   | Not used.   |
| 6   | Output lights red to identify an output is activated.             |
| 7   | Not used.   |

| Terminal Designation* | Uses        | Terminal Designation* | Uses        |
|-----------------------|-------------|-----------------------|-------------|
| Rly 1 COM             | Relay 1 COM | Rly 5 COM             | Relay 5 COM |
| Rly 1 NO              | Relay 1 NO  | Rly 5 NO              | Relay 5 NO  |
| Rly 2 COM             | Relay 2 COM | Rly 6 COM             | Relay 6 COM |
| Rly 2 NO              | Relay 2 NO  | Rly 6 NO              | Relay 6 NO  |
| Rly 3 COM             | Relay 3 COM | Rly 7 COM             | Relay 7 COM |
| Rly 3 NO              | Relay 3 NO  | Rly 7 NO              | Relay 7 NO  |
| Rly 4 COM             | Relay 4 COM | Rly 8 COM             | Relay 8 COM |
| Rly 4 NO              | Relay 4 NO  | Rly 8 NO              | Relay 8 NO  |

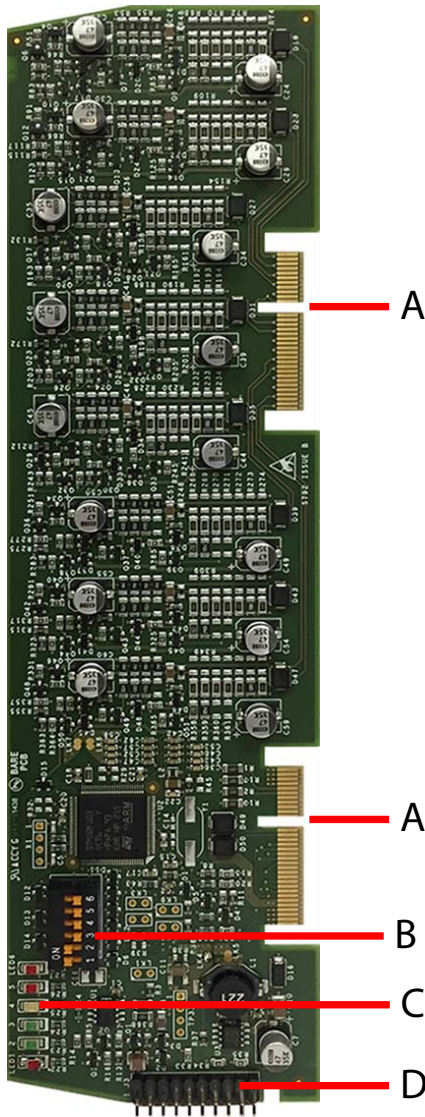
\*As displayed on sticker label.

Section 6

# 8-Way Conventional Board

The 8-Way Relay Board may occupy one or more slots of the panel main back board or expansion board. It provides eight detection circuits which are compatible with a range of detection devices.

Figure 6-1  
8-Way Conventional Board



| Key | Description  |
|-----|--|
| A   | Edge connector for termination at slots on Main Back Board slots (E&F) or Expansion Board slots (G-K). |
| B   | Six-position DIP switch SW1 for setting the RS485 bus address of this circuit board.                   |
| C   | LED provide status information – see below.  |
| D   | Proprietary interface for manufacturing use only   |

| LED | Description   |
|-----|---|
| 1   | Heartbeat flashes red to identify functional status of the Board. |
| 2   | Rx Comms lights red to identify receiving data.                   |
| 3   | Tx Comms lights green to identify transmitting data.              |
| 4   | Fault lights red to identify an error condition.                  |
| 5   | Fire lights red to identify an alarm condition.                   |
| 6   | Output lights red to identify an output is activated.             |

| Terminal Designation | Uses       | Terminal Designation | Uses       |
|----------------------|------------|----------------------|------------|
| 1                    | Zone 1 +ve | 9                    | Zone 5 +ve |
| 2                    | Zone 1 -ve | 10                   | Zone 5 -ve |
| 3                    | Zone 2 +ve | 11                   | Zone 6 +ve |
| 4                    | Zone 2 -ve | 12                   | Zone 6 -ve |
| 5                    | Zone 3 +ve | 13                   | Zone 7 +ve |
| 6                    | Zone 3 -ve | 14                   | Zone 7 -ve |
| 7                    | Zone 4 +ve | 15                   | Zone 8 +ve |
| 8                    | Zone 4 -ve | 16                   | Zone 8 -ve |

## Detection Inputs

- Detection inputs provide current limited, resetting power suitable for most types of conventional detectors. Monitoring is achieved by fitting a 6K8 end of line resistor at the last device on the detection line. Power is removed from all detection lines for 5 seconds when the reset button at the main fire control panel is pressed, thus resetting any activated detectors.
- Each detection input has a red and a yellow LED associated with it. The red LED illuminates when the detection input is activated by a detector or call point and the yellow LED illuminates if the wiring to the detection circuit becomes short circuited or if the end of line resistor becomes disconnected.
- The inputs of the Conventional detection board are not suitable for the connection of intrinsically safe barriers. If intrinsically safe barriers are required, these can be connected via loop modules manufactured by the suppliers of loop devices.
- A maximum load of 1.6 milliamps may be connected to each detection input which allows around 30 detectors of most types to be fitted. For an accurate calculation of the numbers of detectors that can be fitted this calculation may be used :
- $(1600/\text{quiescent current of detector in microamps}) - 1 = \text{number of detectors that can be connected.}$
- The characteristics of the detection zone inputs have been designed to carefully match those of Kentec K3000 series conventional control panels and as such can be used as direct replacements for these or in any situation where K3000 control panels would be suitable.
- The trigger resistance required to activate the zone is nominally 470 Ohms. The actual range of resistance that will activate the zone is around 100 to 800 Ohms.
- Detection inputs may be re-configured via the configuration programme in the same way as all other input devices. They cannot be made non-latching, but this should not be used when monitoring smoke or heat detectors as the zone voltage is not removed when the panel is reset and therefore these conventional detectors will not reset from the fire state.

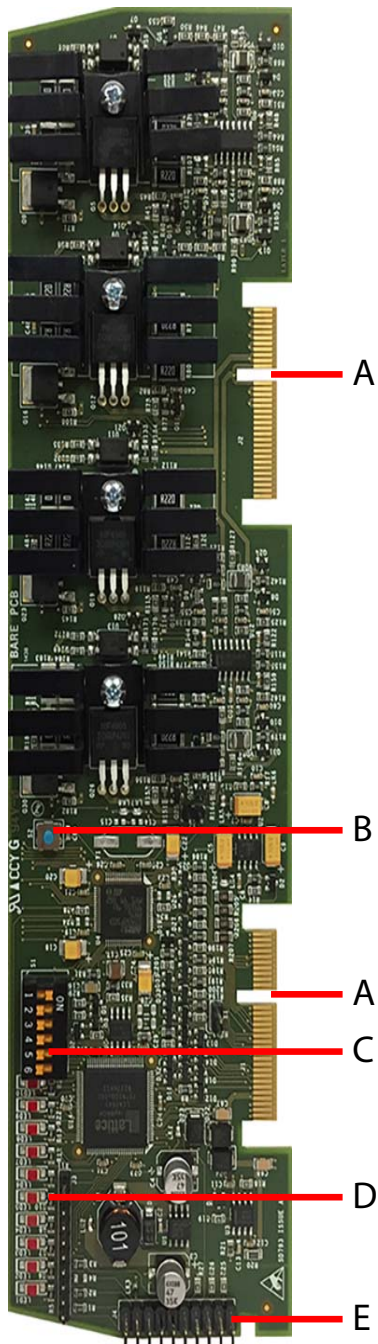


Section 7

# 4-Way Sounder Board

The 4-Way Sounder Board may occupy one or more slots of the panel main back board or expansion board. It provides a means to connect sounders, strobes or other devices requiring a nominal 24V DC supply to radial wiring from the control panel.

Figure 7-1  
4-Way Sounder Board



| Key | Description  |
|-----|--|
| A   | Edge connector for termination at slots on Main Back Board slots (E&F) or Expansion Board slots (G-K). |
| B   | Push-button switch (S2) resets the board.  |
| C   | Six position DIP switch (S1) sets the RS485 address of the board.                                      |
| D   | LED provide status information as below.   |
| E   | Proprietary interface for manufacturing use only.  |

| LED | Description |
|-----|-------------|
| 1   | TBA         |
| 2   | TBA         |
| 3   | TBA         |
| 4   | TBA         |
| 5   | TBA         |
| 6   | TBA         |
| 7   | TBA         |
| 8   | TBA         |
| 9   | TBA         |
| 10  | TBA         |

| Terminal Designation | Uses      | Terminal Designation | Uses     |
|----------------------|-----------|----------------------|----------|
| 1                    | Sdr 1 -ve | 9                    | Not Used |
| 2                    | Sdr 1 +ve | 10                   | Not Used |
| 3                    | Sdr 2 -ve | 11                   | Not Used |
| 4                    | Sdr 2 +ve | 12                   | Not Used |
| 5                    | Sdr 3 -ve | 13                   | Not Used |
| 6                    | Sdr 3 +ve | 14                   | Not Used |
| 7                    | Sdr 4 -ve | 15                   | Not Used |
| 8                    | Sdr 4 +ve | 16                   | Not Used |

## Sounder Outputs

- Utilising Class A wiring 2 sounder circuits are possible.
- Utilising Class B wiring 4 sounder circuits are possible.
- The sounder outputs are open and short circuit monitored by fitting a 10K 0.25W resistor across the last device fitted to the field wiring (Class B).
- Unused outputs must be terminated with end of line resistor to prevent fault indication.
- Each output is protected by a 1 Amp, self resetting electronic fuse. A short circuit or overload on one of the outputs will not prevent the other outputs from operating.
- All sounder devices used with the board must be polarised. Connecting non-polarised devices to the circuit will result in a fault indication on the board and at the control panel.
- Although each of the sounder outputs is fused at 1 Amp, consideration should be given to the rating of the power supply that is powering the sounder board.
- The standard power supply for instance has a rating of 5.25 or 10.25 Amps (depending on model) of which a total of 2.5 Amps should be used for all sounder circuits.
- When using many sounder outputs or high power sounder outputs, use a separate power supply.

**Appendix A****Battery Consumption****All Additional Boards**

The effect of the power consumption of relay boards must be considered when calculating battery standby. Each board has a quiescent current consumption of 10 mA which will require  $(24 \times 0.01A) + 25\% = 0.3Ah$  of extra battery capacity per 24 hour standby period. The relays must be able to operate for half an hour at the end of the standby period so additional capacity of  $(0.5 \times 0.25) + 25\%$  in Ah (0.15) should be added to the required battery capacity to cover this.

## Appendix B

# Specifications

### 16 Channel I/O

- Part number: K772
- Supply voltage range: 21V to 30V DC
- Quiescent current consumption: 15mA
- Current per input: 3mA
- Current per output: Max 100mA per output OR 500mA across bank of 8 outputs (500mA for 1-8, 500mA for 9-16).
- PCB size: 62.8mm x 234.6mm (+/- 0.2mm)
- Cable capacity: 2.5mm<sup>2</sup> per terminal (Taktis main/extender board)
- Operating temperature: -5°C to +40°C (±2°C)
- Operating humidity: <95% (non-condensing)

### 8-Way Relay

- Part number: K791
- Supply voltage range: 21V to 30V DC
- DC Quiescent current consumption: 10mA
- Maximum current consumption: 160mA (All relay on)
- Output contact rating: 30V DC, 1 Amp (Voltage free)
- PCB size: 62.8mm x 234.6mm (+/- 0.2mm)
- Cable capacity: 2.5mm<sup>2</sup> per terminal (Taktis main/extender board)
- Operating temperature: -5°C to +40°C (±2°C)
- Celsius Operating humidity: <95% (non-condensing)

### 4-Way Sounder

- Part number: K793
- Supply voltage range: 21V to 30V DC
- End of line resistor value: Diode (1N4001)
- Quiescent current consumption: 30mA
- Full alarm current consumption: 50mA (exclude current draw on sounder outputs)
- Current per sounder output: 2.5A per channel
- PCB size: 62.8mm x 234.6mm (+/- 0.2mm)
- Cable capacity: 2.5mm<sup>2</sup> per terminal (Taktis main/extender board)
- Operating temperature: -5°C to +40°C (±2°C)
- Operating humidity: <95% (non-condensing)
- Configuration: 4 x class "B", or 2 x class "A"

### 8-Way Conventional

- Part number: K792
- Supply voltage range: 21V to 30V DC
- Detection input end of line resistor value: 6K8 Ohms
- Quiescent current consumption (power fault condition): 70mA
- Full alarm current consumption (assuming 470R trigger resistance on ALL inputs): 350mA
- PCB size: 62.8mm x 234.6mm (+/- 0.2mm)
- Cable capacity: 2.5mm<sup>2</sup> per terminal (Taktis main/extender board)
- Operating temperature: -5°C to +40°C (±2°C)
- Operating humidity: <95% (non-condensing)
- Configuration: 8x Class "B" or following pairs can be changed to class "A"
  - Zone 1 and Zone 2
  - Zone 3 and Zone 4
  - Zone 5 and Zone 6
  - Zone 7 and Zone 8