

### Cautions



**ELECTRICAL HAZARD:** Disconnect power from equipment prior to making any internal adjustments. Service should only be performed by qualified personnel.



**FRAGILE:** Inspect the equipment prior to installation. Do not install the equipment if damage is apparent. Do not attempt to disassemble this equipment. If damaged, return to the supplier.



**ELECTROSTATIC HAZARD:** This is sensitive electronic equipment. Apply safe ant-static practices when handling this equipment.

**CIRCUIT LIMITATIONS:** The maximum number of devices connected to a single alarm zone is limited by the control and indicating equipment, and may be limited by local regulations.

### Introduction

The 683 addressable audio/visual alarm base is a loop-powered device that provides a fire alarm warning to building occupants. The integration of the audio/visual function with a detector base may displace the need to install separate audio/visual alarm devices.

Models with an integrated isolator provides electrical isolation of loop wiring for addressable fire detection control and indicating equipment. The optional isolator eliminates the need for a separate isolation device on the loop.

These instructions provide trained installation personnel with details to install and commission 683 audio/visual alarm bases for optimum performance.

### Preparation

Before commencing installation, ensure all equipment (base and detector) and tools to mount and connect the equipment are available, such as drills, mounting screws, cables and ladders.

683 audio/visual alarm bases can be installed with compatible addressable or non-addressable devices.

### Installation

#### Base

The base can be mounted directly onto an electrical junction box such as an octagonal (75 mm, 90 mm or 100 mm), a round (75 mm), or a square (100 mm) box without using any type of mechanical adapter.

1. Feed the conductors through the terminal access holes, from the rear.
2. Mount the base on the junction box or directly onto a flat surface.
3. Mount the base to the surface using fixing screws that are suitable to securely fix the base to the surface.

#### Wiring

The terminals accept (0.4 ~ 2.5) mm<sup>2</sup> conductors.

1. Strip the conductor insulation to expose 5 mm of the conductor.
2. Connect the conductors to the base terminals as shown in Fig. 1.



**WARNING:** Take care to ensure the insulation does not get clamped by the terminal contact.

3. Check the wiring for continuity, short circuits and earth faults.

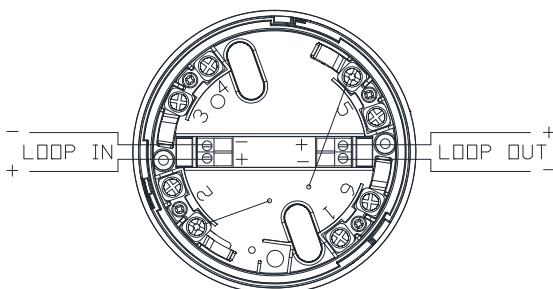


Fig. 1: 683 audio/visual alarm base wiring connections

### Address Setting

Select the base address, then set the address as shown in Table 1 or Table 2 by adjusting the DIP switch settings.

**WARNING:** Be sure to use the correct address setting table based for the specific 683 part number. Datasheet 31-0064 includes a detector compatibility matrix for each 683 model.



#### Notes:

1. When used with non-addressable detectors, DIP switches 1 ~ 6 are used to set the base address within the range 1 ~ 63 (see Table 1).
2. When used with addressable detectors, DIP switches 1 ~ 5 are used to set the A/V base address within the range 94 ~ 125 (see Table 2).
3. When used with addressable detectors, DIP switch 6 sets how the visual alarm is controlled for audio/visual alarm bases 683-009 ~ 683-012:
  - If DIP switch 6 is OFF, the visual alarm is stopped when the ALARM SILENCE control is activated at the control and indicating equipment.
  - If DIP switch 6 is ON, the visual alarm is stopped when the RESET control is activated at the control and indicating equipment.
4. DIP switch 7 is OFF if the device is activated by a dedicated message from the control and indicating equipment. DIP switch 7 is ON if the device is activated immediately when the control and indicating equipment enters the Alarm Condition (special alarm).
5. DIP switch 8 is used for shadow addressing, in which case DIP switch 7 must be ON.

Table 1 – DIP switch address settings for audio/visual alarm bases 683-001 ~ 683-006 (used with non-addressable detectors)

|      | Bits 5 & 6     |    |    |    |
|------|----------------|----|----|----|
|      | 00             | 01 | 10 | 11 |
| 0000 | — <sup>a</sup> | 16 | 32 | 48 |
| 1000 | 1              | 17 | 33 | 49 |
| 0100 | 2              | 18 | 34 | 50 |
| 1100 | 3              | 19 | 35 | 51 |
| 0010 | 4              | 20 | 36 | 52 |
| 1010 | 5              | 21 | 37 | 53 |
| 0110 | 6              | 22 | 38 | 54 |
| 1110 | 7              | 23 | 39 | 55 |
| 0001 | 8              | 24 | 40 | 56 |
| 1001 | 9              | 25 | 41 | 57 |
| 0101 | 10             | 26 | 42 | 58 |
| 1101 | 11             | 27 | 43 | 59 |
| 0011 | 12             | 28 | 44 | 60 |
| 1011 | 13             | 29 | 45 | 61 |
| 0111 | 14             | 30 | 46 | 62 |
| 1111 | 15             | 31 | 47 | 63 |

<sup>a</sup> Address not permitted.

#### Notes:

##### DIP switch 7

1. Set to OFF if the device is activated by a dedicated message from the control and indicating equipment.
2. Set to ON if the device is activated immediately when the control and indicating equipment enters the Alarm Condition (special alarm).

##### DIP switch 8

1. Set to OFF if shadow addressing is not used.
2. Set to ON if shadow addressing is used. DIP switch 7 must also be on.

**Table 2 – DIP switch address settings for audio/visual alarm base 683-007 ~ 683-012 (used with addressable detectors)**

| Least significant nibble | Bit 5 |     |
|--------------------------|-------|-----|
|                          | 0     | 1   |
| 0000                     | 94    | 110 |
| 1000                     | 95    | 111 |
| 0100                     | 96    | 112 |
| 1100                     | 97    | 113 |
| 0010                     | 98    | 114 |
| 1010                     | 99    | 115 |
| 0110                     | 100   | 116 |
| 1110                     | 101   | 117 |
| 0001                     | 102   | 118 |
| 1001                     | 103   | 119 |
| 0101                     | 104   | 120 |
| 1101                     | 105   | 121 |
| 0011                     | 106   | 122 |
| 1011                     | 107   | 123 |
| 0111                     | 108   | 124 |
| 1111                     | 109   | 125 |

**Notes:**

**DIP switch 6** (Used for audio/visual alarm 683-009 ~ 683-012)

- Set to OFF: visual alarm is stopped when ALARM SILENCE control is activated at the control and indicating equipment.
- Set to ON: visual alarm is stopped when RESET control is activated at the control and indicating equipment.

**DIP switch 7**

- Set to OFF if the device is activated by a dedicated message from the control and indicating equipment.
- Set to ON if the device is activated immediately when the control and indicating equipment enters the Alarm Condition (special alarm).

**DIP switch 8**

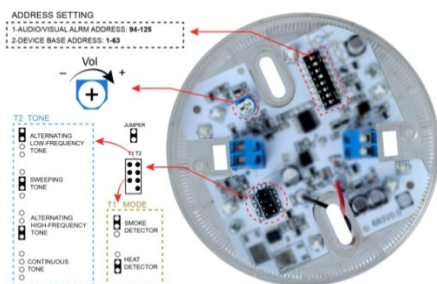
- Set to OFF if shadow addressing is not used.
- Set to ON if shadow addressing is used. DIP switch 7 must also be on.

**Alarm Configuration**

- For 683-001 ~ 683-006 (used with non-addressable detectors), fit jumper T1 as shown in Fig. 2.

**Notes:**

- If a smoke/heat detector is installed, either position can be selected. The smoke detector position is recommended.
- If no detector head is installed, T1 is not fitted.
- Fit the jumper T2 to select the tone signal for the audible alarm, as shown in Fig. 2.
- For audio alarm bases, adjust the volume control for the required audible level, as shown in Fig. 2.

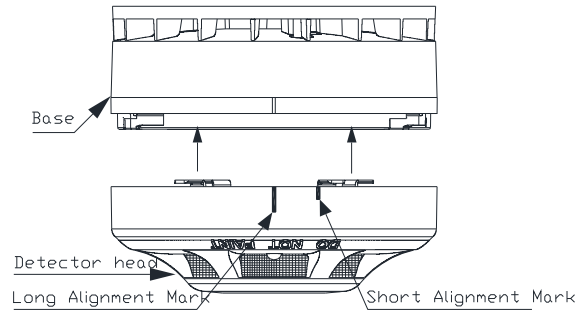


**Fig. 2: 683 audio/visual alarm base jumper and volume settings**

**Detector**

Note: Refer also to the relevant detector installation instructions.

- Align the detector alignment mark with the short alignment mark in the base, as shown in Fig. 3.
- Mate the detector head onto the base and rotate it clockwise to secure it. The long alignment marks should be aligned.



**Fig. 3: Fitting the detector to the audio/visual base**

**Optional Cover**

If a detector is not installed, and just the audio/visual functions are required, then an optional cover may be fitted (683-013 or 683-014) to cover the base terminals from view.

**Commissioning**

**Alarm Function**

- Ensure all the alarm signal services, releasing devices and extinguisher systems are disabled during the commissioning period.
- Connect power to the base for approximately 1 min. Check that the base is recognized and in the quiescent condition at the control and indicating equipment. If the base is not shown or shows in fault, check the wiring for the correct voltage and earth leakage. Replace the base if necessary.
- Activate an alarm at the control and indicating equipment for the audio/visual alarm bases configured for operation.
- Check that the alarm is visible and/or audible at the base.
- Reset the control and indicating equipment.
- Check that the base returns to the quiescent condition.

**Isolator Function**

Where the loop isolator function is fitted to the audio/visual base, undertake the following tests.

- Apply a short circuit to the **Loop Out** wiring.
- Check that the status of devices connected to the **Loop In** side of the alarm zone wiring remains unchanged at the control and indicating equipment.
- Remove the short circuit.
- Check that devices connected to the **Loop Out** side of the alarm zone return to their previous conditions at the control and indicating equipment.

**Final Conditions**

Ensure all the alarm signal services, releasing devices and extinguisher systems disabled for the commissioning are returned to their previous condition.

**References**

| Document | Description                           |
|----------|---------------------------------------|
| 31-0064  | 683 audio/visual alarm base datasheet |

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