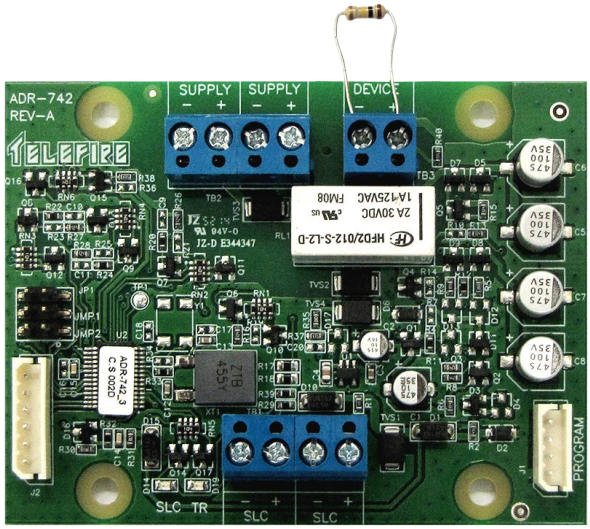
ADR-742

TELEFIRE

ADR-742

Addressable
AC / DC Switching Module

Technical Manual



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ADR-742En101.pdf

Revision 1.01

i

Note

The terms “**Trouble**” as used in NFPA 72 guideline and UL standards and “**Fault**” as used in EN 54 standards are used interchangeably throughout this manual.

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Note

Do not install, operate, and maintain this ADR-742 before fully reading this manual.

1 Introduction

The ADR-742 module allows monitoring and activation of speakers for public announcements, with the speakers being activated by a matrix applied in the addressable fire detection control panel. This solution allows general activation (all call) of the speakers, as well as individual or group activation.

All devices, including speakers or lamps / relays / sounders (according to application) are monitored on standby for normal activation by the ADR-742. When activated, the monitoring is done by a device connected to the supply terminals, such as an amplifier or a power supply outlet.

The ADR-742 is powered by the device communications line (SLC), with no need for 24Vdc power supply. The ADR-742 module is supervised by the control panel and communicates with it via the SLC. The addressable device communications line (SLC) is galvanically isolated from the relay.

The ADR-742 occupies a single address. The address is stored in the module's non-volatile memory and can be programmed or verified by using the PROG-4000 Addressable Detector and Accessory Programmer. Please refer to the PROG-4000 Technical Manual for further information.

The ADR-742 includes an onboard indicating LED that flashes when addressed by the control panel and latches on upon activation.

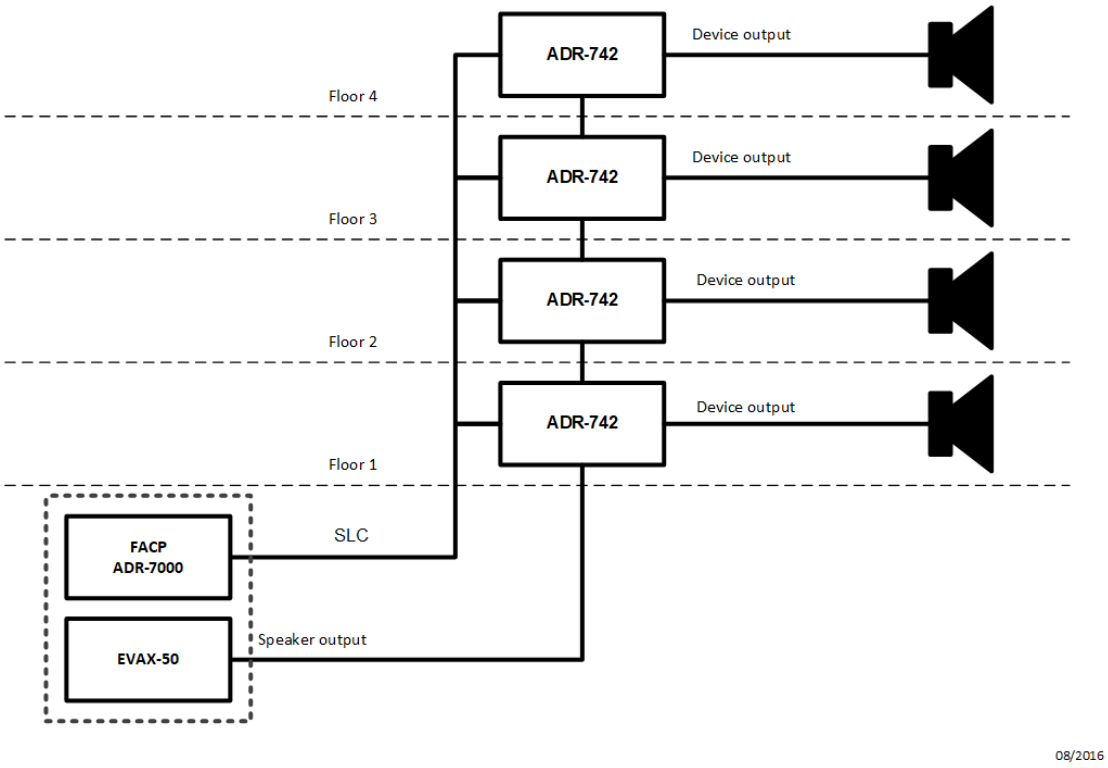

Figure 1 Switching loudspeakers for evacuation system

2 Compatibility

2.1 Control Panels

The ADR-742 is compatible with the full range of Telefire's addressable control panels.

2.2 Devices

ADR-742 can switch speaker lines.

3 Installation

3.1 Pre-Installation Planning

3.1.1 Capacity Planning

Ensure that the control panel has a free address for the ADR-742.

3.1.2 Cabling Planning – Wire Characteristics' Effect on System Performance

The following table shows the effect of wiring characteristics on system performance:

Characteristic	Effect on SLC	Effect on IDC
Electric resistance	Minimal	Minimal
Capacitance	High	No affect
Inductance	High	Minimal
Mechanical Strength	High	High

Table 1 Wire Characteristics' Effect on System Performance

3.1.3 Cabling Planning – Signaling Line Circuits (SLC)

The module connects to the control panel via a two-wire cable. Use a fire-resistant cable that is 12 – 18 AWG (cross section of 0.5mm^2 to 3.3mm^2). Twisted-pair cable is recommended.

AWG	Dia (mm^2)	Cross (mm^2)	Maximum SLC length
20	0.812	0.518	570m / 1,630 feet
19	0.912	0.653	710m / 2,040 feet
18	1.024	0.823	900m / 2,580 feet
17	1.150	1.04	1,125m / 3,230 feet
16	1.291	1.31	1,425m / 4,090 feet
15	1.450	1.65	1,800m / 5,170 feet
14	1.628	2.08	2,275m / 6,530 feet
13	1.828	2.62	2,875m / 8,260 feet
12	2.053	3.31	3,625m / 10,410 feet

Table 2 Selecting SLC Wires

Note

Notify the operator or the security personnel that the system will be temporary disconnected before adding devices to the control panel.

3.1.4 Cabling Planning – Relay Output

Note

Relay outputs are not supervised and should be limited to the same room or no farther than 10m.

3.2 Installation

3.2.1 ADR-742 Configuration

Assign the module's address prior to installation by using the PROG-4000 Addressable Detector and Accessory Programmer. Please refer to the PROG-4000 manual for additional details.

Mount AIB-800 on a clean firm surface and install the ADR-742 module in it.

3.2.2 Configuring the ADR-7000

Configure the module Type as "**Control Out**", Mode as "**Speaker**", as appropriate, in the ADR-7000.

Program the activation matrix.

Please refer to the ADR-7000 technical manual for a detailed description of programming and configuration.

3.2.3 Mounting the module

The module should be installed in a closed location. Avoid exposure to outdoor environment to prevent high humidity or dust or air pollution.

Mount the module to a solid wall so it will have comfortable access to connecting the cables from the input and output devices and maintenance personnel for ongoing operations and in a location where it is possible to supervise and clearly see the display and indicators.

3.2.4 Connecting the Relay

Connect the relay as required.

Note

Measure the wiring to ensure there are no shorts before connecting the wiring to the control panel.

Connecting or adding inputs, outputs, and extinguishing devices shall be done when all power to the control power is disconnected (AC and batteries disconnected).

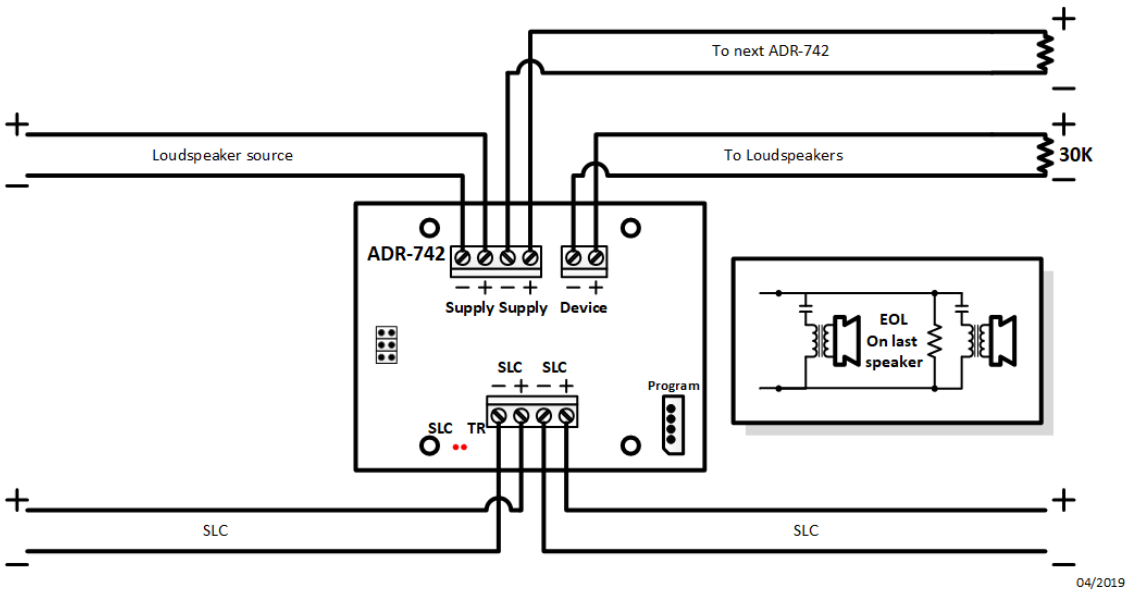

Figure 2 Connecting the ADR-742

3.3 Post-Installation

Test the module to ensure that it operates properly and verify that it is included in the appropriate matrices as specified by the planning consultant.

3.4 Documentation

Mark the module's addresses on a label that is easily visible. Indicate its purpose (for example, "Elevator Recall").

4 Troubleshooting

The ADR-742 unit includes an indicator LED that flashes on each system communication request to one of the module's addresses. When the relay is activated, the LED will latch on.

The LCD display on the control panel and remote annunciators will indicate a detailed error message.

5 Specification

Module PCB dimensions (W / H)..... 65 / 86 mm
AIB-800 dimensions (W / H / D)..... 167 / 125 / 33 mm
Operating Temperature range..... -10°C – +60°C (14°F – 140°F)
Relative Humidity Range ..... 10% – 93% non-condensing
Maximum current consumption (SLC)..... 280µA (quiescence mode)
3.2mA (Alarm)
SLC Voltage ..... 21V, modulated
Maximum Current Consumption..... 280µA (quiescence mode)
3.2mA (Alarm)

Relay
- Dry contacts..... one set
- Relay activation ..... programmable
- Max rating of relay contacts ..... 2.0A / 30Vdc
- Max audio switching power 50W

Relay contacts are unsupervised, not current limited – same room connection only.

Local Indication..... Local red LED

All values are nominal. Specifications are subject to change without prior notice

6 Certification

Telefire's ADR-742 Addressable Relay Module has the following approvals:

- EN 54 Approved
- UL 864 Approved
- GOST Compliant
- IS 1220 Approved
- CE Marked