



Radionics[®]

D7024EXP Fire Alarm Control/Communicator

Reference Guide Addendum



This addendum (P/N: 41740) is intended to replace pages 7, 14 and 16 of the D7024 Reference Guide (P/N: 31499). Use this addendum to wire the special 220 V, 50 Hz transformer in the control. For all other accessories, programming instructions and tables, refer to the D7024 Reference Guide (P/N: 31499).



Radionics[®]

© 1999 Radionics, a division of Detection Systems, Inc.
® The Radionics logo is a registered trademark of Radionics,
PO Box 80012, Salinas, CA 93912-0012, USA
All rights reserved.
Customer Service: (800) 538-5807

3.0 Overview

3.2 Specifications

3.2.1 Temperature

- Storage and Operating Temperature: +32° to +120°F (0° to +49°C)

3.2.2 Power

- **Input Power:** 220V, 50Hz, 800mA (fused with 1.0A fast acting IEC standard fuse)
- **Notification Appliance Circuit Power:** Each NAC has 24VDC nominal, unfiltered (special application) power with up to 2.5A capacity (but limited by overall 4.0 A capacity). Refer to Technogram P/N 34950 for compatible devices.
- **Auxiliary Power:** 24VDC nominal, unfiltered, 1.0A (special application)
- **Initiating Circuit (Smoke) Power:** 24VDC nominal, filtered, 1.0A. Refer to Technogram P/N 34445 for compatible devices.
- **Option Bus Power:** 12VDC nominal, 500mA
- **Optional Standby Batteries:** Two 12V (in series), 7 - 40AH

3.3.3 Notification Appliance Circuits (NACs)

- Two on-board notification circuits - NAC 1 and NAC 2. These are 24V outputs for notification devices with up to 2.5A capacity (but limited by overall 4.0A capacity) on each circuit.
- Wired for standard Class B, Style B operation (use model D7015 Class B to Class A NAC Converter to convert to Class A, Style D as needed).

3.3.4 Relays

Local Relays: The main panel includes two Form "C" relays. The relay contacts are rated at 5A, 28VDC. No overcurrent limiting is performed on the contacts of these relays. The default selection for the relays is to indicate general alarm and general system trouble. By programming them using point/zone mapping, they can be programmed to activate on a wide variety of conditions.

Remote Relay Module (D7035): The D7035 is an Octal Relay Module that provides eight Form "C" relay outputs. It connects to the D7024EXP via the option bus. The outputs are fully programmable, exactly as the local relays are programmed. Each output operates independently of the other seven to provide complete flexibility. Communication with the D7035 is supervised.

- Rating of Contacts: 5A @ 28VDC
- Number of modules: 2 units maximum
- Wiring Distance: When #18 wire is used, relays can be up to 250 ft (76.2 m) from the panel. Use of smaller wire is not recommended.

3.3.5 On-board Conventional Points

All on-board points work with two- or four-wire detectors. The system has an optional alarm verification feature.

- **Number of 2-wire Circuits:** Four circuits, expandable to eight using a D7034 Expander.
- **Type of Circuit:** Class B, Style B (use a D7014 Class A Zone Converter to convert to Class A, Style D as needed).
- **EOL Resistor:** 2.21k ohms (P/N: 25899, UL listed).
- **Supervisory Current** 8 - 20mA.
- **Required Current for Alarm:** 25mA.
- **Maximum Short Circuit Current:** 44mA.
- **Maximum Line Resistance:** 150 ohms.
- **Circuit Voltage Range:** 20.4 - 28.2VDC.
- **Maximum Detectors per Point:** 20 detectors (2-wire).
- **Total Detector Standby Current:** 3mA maximum.
- **Response Time:** 500 milliseconds and programmable from 1 to 89 seconds.

4.0 Installation and Set-up

4.0 Installation and Set-up

In the shipping box, you should find:

- One D7024EXP Control/Communicator in static-resistant bag
- One Enclosure with transformer
- One hardware pack:
- Three (3) support posts
- Two (2) screws
- Five (5) 1/8" nylon stand-offs
- Two (2) nuts
- Two (2) internal-star washers
- One (1) enclosure lock, washer, and keys
- Six (6) End-of-Line (EOL) resistors
- 1A Fuse
- Fuse Holder

The hardware necessary for installing the control panel in the enclosure is located in the hardware pack.

4.1 Installing the Enclosure

Using the enclosure as a template, mark the top mounting holes on the mounting surface (see Figure 3).

Pre-start the mounting screws (not supplied) for these two holes. Slide the enclosure onto these screws so that the screws move up into the thinner section of the holes. Tighten the screws.

Screw in the remaining two screws in either set of bottom mounting holes.

Knock out the desired wire entrances on the enclosure.

4.2 Installing the Control/Communicator



The D7024EXP control board is static sensitive. Make sure you touch ground before handling the control board. This will discharge any static electricity in your body. For example, run the ground wire to the enclosure before handling the control board. Continue touching the enclosure while installing the control board.

Lay the enclosure face-up on a flat surface

Insert the three support posts in the retainer holes on enclosure (see Figures 2 and 3).

Press the 1/8" nylon standoffs (P/N: 30503) into the retainer holes (see Figures 3 and 4).

Slide the top of the control into the retainer tabs (the slots under the top of the frame). Once in the retainer tabs, the control will rest on the posts.

Secure the bottom of the control by screwing the two bottom corners through the support posts and through to the control retainer holes (see Figure 4).

Once the control board is installed, be sure to connect the supplied ground wire between the door and the enclosure using the supplied nuts. A second ground wire is provided for connecting AC power ground. Both grounds connect to the stud in the enclosure to the left of the circuit board.

Install the 1A fuse in the fuse holder.

Install the fuse holder in the fuse block.

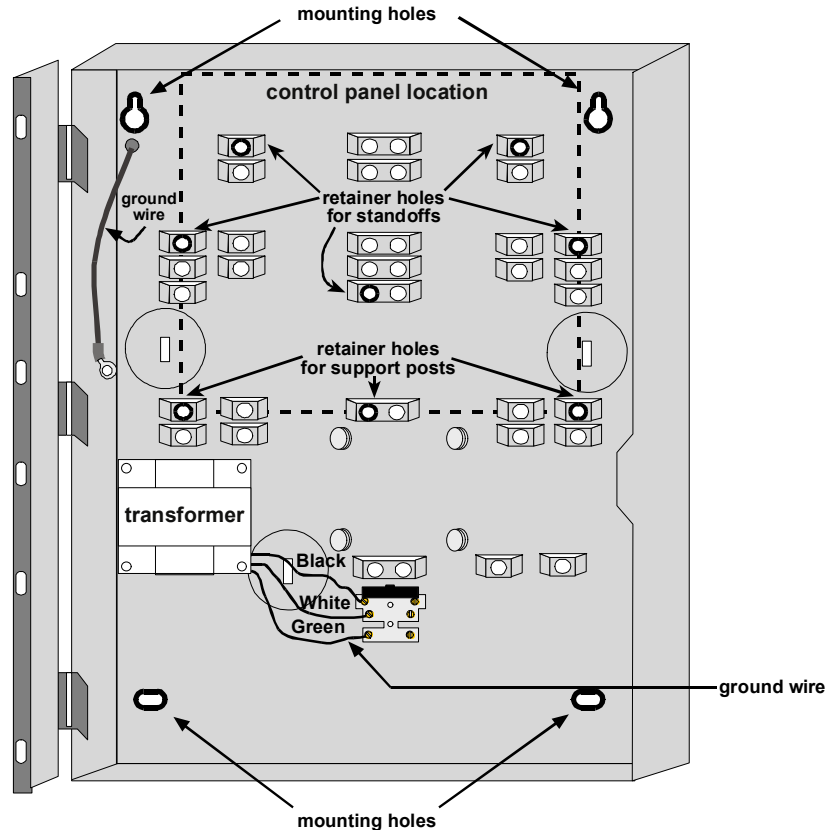


Figure 2: Enclosure Installation

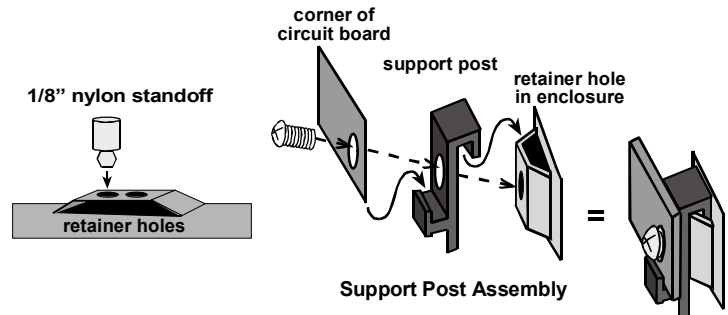


Figure 4: Standoff and Support Post Installation

5.0 Control Terminal Connections

Note to 50 Hz AC Users:

Once the D7024EXP is powered up for the first time, remember to change the AC Line Sync from 60 Hz default to 50 Hz. From the Main Menu, select Prog/ Prog System/ AC Line Sync/ 50 Hz [0 – 3 – 3 – 1 #]. See Section 8.3.2, "AC Line Sync" for additional information.

5.0 Control Terminal Connections



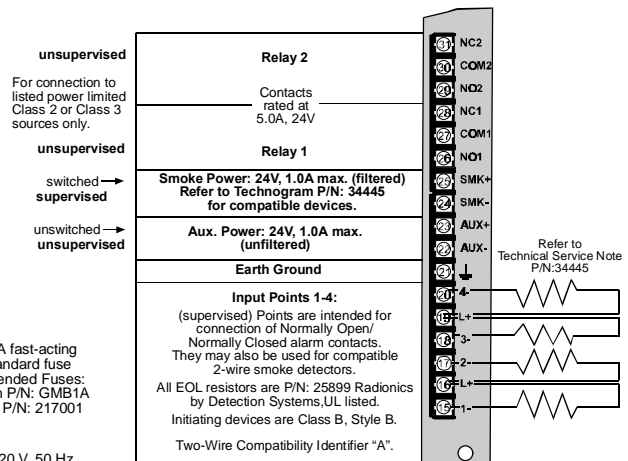
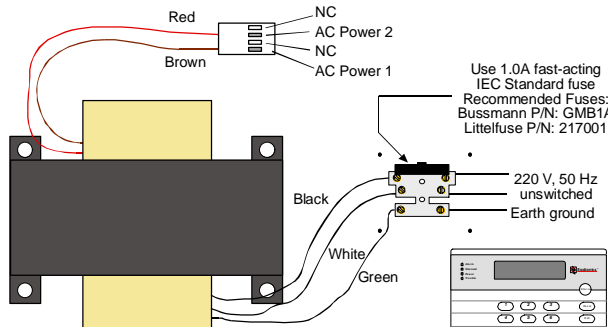
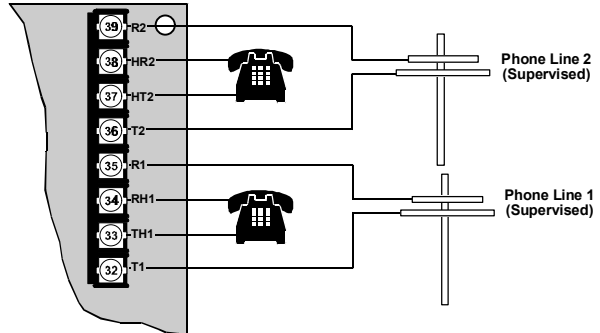
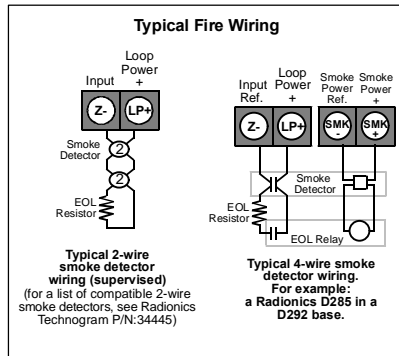
Incorrect connections may result in damage to the unit and personal injury.



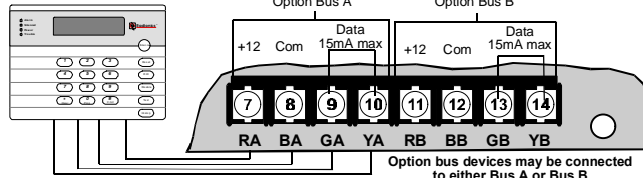
Before servicing this equipment, remove all power including the transformer, battery and phone lines.



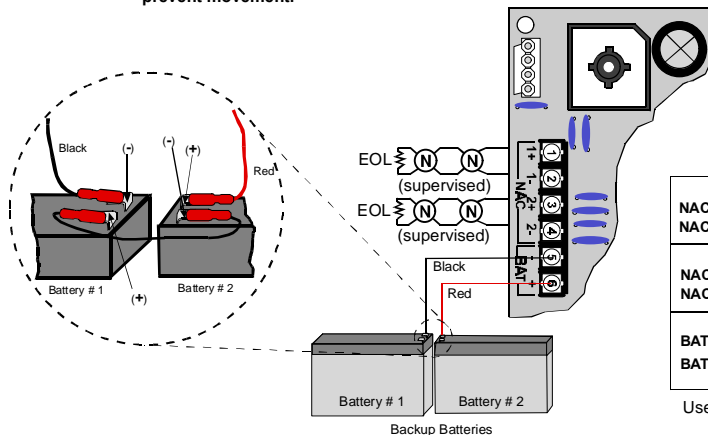
Shared cable is not recommended for option bus, telephone or NAC wiring.



All wiring except battery terminal is power-limited. Primary AC and battery wires must be separated from other wires by at least 1/4 in. (64 mm) and tied to prevent movement.



All option bus devices must be connected to the same bus, either Bus A or Bus B. Do not connect some devices to Bus A data terminals ("YA", "GA") and some to Bus B data terminals ("YB", "GB"). Power ("RA", "RB") and ground ("BA", "BB") terminals may be connected interchangeably to either set of terminals.



NAC 1+	NOTIFICATION APPLIANCE CIRCUIT: +24V while in alarm; ground while in standby.
NAC 1-	Ground while in alarm; supervisory voltage while in standby.
NAC 2+	NOTIFICATION APPLIANCE CIRCUIT: +24V while in alarm; ground while in standby.
NAC 2-	Ground while in alarm; supervisory voltage while in standby.
BAT -	BATTERIES: Requires two 12V batteries, in series, for a combined voltage of 24V. Charge current = 1.1A, max.
BAT +	Caution: Do not short terminals - explosion and burn hazard.

Use only indicating devices as listed on Technogram P/N: 34950.

Figure 5: D7024EXP Control Terminal Connections