NOTIFIER®

by Honeywell

Universal Digital Alarm Communicator/
Transmitter
UDACT-2

Fire Alarm & Emergency Communication System Limitations

While a life safety system may lower insurance rates, it is not a substitute for life and property insurance!

An automatic fire alarm system—typically made up of smoke detectors, heat detectors, manual pull stations, audible warning devices, and a fire alarm control panel (FACP) with remote notification capability—can provide early warning of a developing fire. Such a system, however, does not assure protection against property damage or loss of life resulting from a fire.

An emergency communication system—typically made up of an automatic fire alarm system (as described above) and a life safety communication system that may include an autonomous control unit (ACU), local operating console (LOC), voice communication, and other various interoperable communication methods—can broadcast a mass notification message. Such a system, however, does not assure protection against property damage or loss of life resulting from a fire or life safety event.

The Manufacturer recommends that smoke and/or heat detectors be located throughout a protected premises following the recommendations of the current edition of the National Fire Protection Association Standard 72 (NFPA 72), manufacturer's recommendations, State and local codes, and the recommendations contained in the Guide for Proper Use of System Smoke Detectors, which is made available at no charge to all installing dealers. This document can be found at http://www.systemsensor.com/appguides/. A study by the Federal Emergency Management Agency (an agency of the United States government) indicated that smoke detectors may not go off in as many as 35% of all fires. While fire alarm systems are designed to provide early warning against fire, they do not guarantee warning or protection against fire. A fire alarm system may not provide timely or adequate warning, or simply may not function, for a variety of reasons:

Smoke detectors may not sense fire where smoke cannot reach the detectors such as in chimneys, in or behind walls, on roofs, or on the other side of closed doors. Smoke detectors also may not sense a fire on another level or floor of a building. A second-floor detector, for example, may not sense a first-floor or basement fire.

Particles of combustion or "smoke" from a developing fire may not reach the sensing chambers of smoke detectors because:

- Barriers such as closed or partially closed doors, walls, chimneys, even wet or humid areas may inhibit particle or smoke flow.
- Smoke particles may become "cold," stratify, and not reach the ceiling or upper walls where detectors are located.
- Smoke particles may be blown away from detectors by air outlets, such as air conditioning vents.
- Smoke particles may be drawn into air returns before reaching the detector.

The amount of "smoke" present may be insufficient to alarm smoke detectors. Smoke detectors are designed to alarm at various levels of smoke density. If such density levels are not created by a developing fire at the location of detectors, the detectors will not go into alarm.

Smoke detectors, even when working properly, have sensing limitations. Detectors that have photoelectronic sensing chambers tend to detect smoldering fires better than flaming fires, which have little visible smoke. Detectors that have ionizing-type sensing chambers tend to detect fast-flaming fires better than smoldering fires. Because fires develop in different ways and are often unpredictable in their growth, neither type of detector is necessarily best and a given type of detector may not provide adequate warning of a fire.

Smoke detectors cannot be expected to provide adequate warning of fires caused by arson, children playing with matches (especially in bedrooms), smoking in bed, and violent explosions (caused by escaping gas, improper storage of flammable materials, etc.).

Heat detectors do not sense particles of combustion and alarm only when heat on their sensors increases at a predetermined rate or reaches a predetermined level. Rate-of-rise heat detectors may be subject to reduced sensitivity over time. For this reason, the rate-of-rise feature of each detector should be tested at least once per year by a qualified fire protection specialist. Heat detectors are designed to protect property, not life.

IMPORTANT! Smoke detectors must be installed in the same room as the control panel and in rooms used by the system for the connection of alarm transmission wiring, communications, signaling, and/or power. If detectors are not so located, a developing fire may damage the alarm system, compromising its ability to report a fire.

Audible warning devices such as bells, horns, strobes, speakers and displays may not alert people if these devices are located on the other side of closed or partly open doors or are located on another floor of a building. Any warning device may fail to alert people with a disability or those who have recently consumed drugs, alcohol, or medication. Please note that:

- An emergency communication system may take priority over a fire alarm system in the event of a life safety emergency.
- Voice messaging systems must be designed to meet intelligibility requirements as defined by NFPA, local codes, and Authorities Having Jurisdiction (AHJ).
- Language and instructional requirements must be clearly disseminated on any local displays.
- Strobes can, under certain circumstances, cause seizures in people with conditions such as epilepsy.
- Studies have shown that certain people, even when they hear a fire alarm signal, do not respond to or comprehend the meaning of the signal. Audible devices, such as horns and bells, can have different tonal patterns and frequencies. It is the property owner's responsibility to conduct fire drills and other training exercises to make people aware of fire alarm signals and instruct them on the proper reaction to alarm signals.
- In rare instances, the sounding of a warning device can cause temporary or permanent hearing loss.

A life safety system will not operate without any electrical power. If AC power fails, the system will operate from standby batteries only for a specified time and only if the batteries have been properly maintained and replaced regularly.

Equipment used in the system may not be technically compatible with the control panel. It is essential to use only equipment listed for service with your control panel.

Telephone lines needed to transmit alarm signals from a premises to a central monitoring station may be out of service or temporarily disabled. For added protection against telephone line failure, backup radio transmission systems are recommended.

The most common cause of life safety system malfunction is inadequate maintenance. To keep the entire life safety system in excellent working order, ongoing maintenance is required per the manufacturer's recommendations, and UL and NFPA standards. At a minimum, the requirements of NFPA 72 shall be followed. Environments with large amounts of dust, dirt, or high air velocity require more frequent maintenance. A maintenance agreement should be arranged through the local manufacturer's representative. Maintenance should be scheduled as required by National and/or local fire codes and should be performed by authorized professional life safety system installers only. Adequate written records of all inspections should be kept.

Limit-D2-2016

Installation Precautions

Adherence to the following will aid in problem-free installation with long-term reliability:

WARNING - Several different sources of power can be connected to the fire alarm control panel. Disconnect all sources of power before servicing. Control unit and associated equipment may be damaged by removing and/or inserting cards, modules, or interconnecting cables while the unit is energized. Do not attempt to install, service, or operate this unit until manuals are read and understood.

CAUTION - System Re-acceptance Test after Software Changes: To ensure proper system operation, this product must be tested in accordance with NFPA 72 after any programming operation or change in site-specific software. Re-acceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring. All components, circuits, system operations, or software functions known to be affected by a change must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified.

This system meets NFPA requirements for operation at 0-49º C/ 32-120º F and at a relative humidity .   However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15-27º C/60-80º F.

Verify that wire sizes are adequate for all initiating and indicating device loops. Most devices cannot tolerate more than a 10% I.R. drop from the specified device voltage.

Like all solid state electronic devices, this system may operate erratically or can be damaged when subjected to lightning induced transients. Although no system is completely immune from lightning transients and interference, proper grounding will reduce susceptibility. Overhead or outside aerial wiring is not recommended, due to an increased susceptibility to nearby lightning strikes. Consult with the Technical Services Department if any problems are anticipated or encountered.

Disconnect AC power and batteries prior to removing or inserting circuit boards. Failure to do so can damage circuits.

Remove all electronic assemblies prior to any drilling, filing, reaming, or punching of the enclosure. When possible, make all cable entries from the sides or rear. Before making modifications, verify that they will not interfere with battery, transformer, or printed circuit board location.

Do not tighten screw terminals more than 9 in-lbs. Over-tightening may damage threads, resulting in reduced terminal contact pressure and difficulty with screw terminal removal.

This system contains static-sensitive components. Always ground yourself with a proper wrist strap before handling any circuits so that static charges are removed from the body. Use static suppressive packaging to protect electronic assemblies removed from the unit.

Follow the instructions in the installation, operating, and programming manuals. These instructions must be followed to avoid damage to the control panel and associated equipment. FACP operation and reliability depend upon proper installation.

Precau-D1-9-2005

FCC Warning

WARNING: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual may cause interference to radio communications. It has been tested and found to comply with the limits for class A computing devices pursuant to Subpart B of Part 15 of FCC Rules, which is designed to provide reasonable protection against such interference when devices are operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user will be required to correct the interference at his or her own expense.

Canadian Requirements

This digital apparatus does not exceed the Class A limits for radiation noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le present appareil numerique n'emet pas de bruits radio-electriques depassant les limites applicables aux appareils numeriques de la classe A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

Software Downloads

In order to supply the latest features and functionality in fire alarm and life safety technology to our customers, we make frequent upgrades to the embedded software in our products. To ensure that you are installing and programming the latest features, we strongly recommend that you download the most current version of software for each product prior to commissioning any system. Contact Technical Support with any questions about software and the appropriate version for a specific application.

Documentation Feedback

Your feedback helps us keep our documentation up-to-date and accurate. If you have any comments or suggestions about our online Help or printed manuals, you can email us.

Please include the following information:

- Product name and version number (if applicable)
- Printed manual or online Help
- Topic Title (for online Help)
- Page number (for printed manual)
- Brief description of content you think should be improved or corrected
- Your suggestion for how to correct/improve documentation

Send email messages to:

FireSystems.TechPubs@honeywell.com

Please note this email address is for documentation feedback only. If you have any technical issues, please contact Technical Services.

Table of Contents

Section 1: Overview

1.1 Introduction

This document contains information for installing, programming and operating the UDACT-2, Universal Digital Alarm Communicator/Transmitter.

1.2 UL 864 Compliance

1.2.1 Products Subject to AHJ Approval

This product has been certified to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864 10th Edition.

The following products have not received UL 864 9th Edition certification and may only be used in retrofit applications. Operation of the UDACT-2 with products not tested for UL 864 9th Edition has not been evaluated and may not comply with NFPA 72 and/or the latest edition of UL 864. These applications will require the approval of the local Authority Having Jurisdiction (AHJ).

AM2020/AFP1010	NFS-640
AFP-300/400	NCA
AFP-200	NFS-3030

1.2.2 Programming Features Subject to AHJ Approval

This product incorporates field-programmable software. The features and/or options listed below must be approved by the local AHJ.

This product incorporates field-programmable software. In order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864, certain programming features or options must be limited to specific values or not used at all as indicated below.

Program Feature or Option	Permitted in UL 864? (Y/N)	Possible Settings	Settings Permitted in UL 864
AC Loss Reporting Delay	YES	1,2,6,7,8,9,10,11,15,16,17,20, 21,22, 23 hours, and "Immediate" (0)	1 hour 2 hours
Host Panel ID	YES	NFS2-3030 NFS-3030 NCA-2 NCA NFS2-640 NFS-640 NFS-320 AM2020 AFP1010 AFP-200 AFP-300 AFP-400	NFS2-3030 NCA-2 NFS2-640 NFS-320
Maximum Test Intervals	YES	4, 6, 8, 12, or 24 hours	4 hour or 6 hour

Table 1.1 UL Settings Requirements

1.3 Related Documentation

The table below contains a list of document sources for supplemental information.

Control Panels	Part Number
VeriFire Tools CD help file	
AFP-200 Instruction Manual	15511
AFP-300/AFP-400 Installation Manual	50253
NFS-320 Installation Manual	52745
NFS-320SYS Installation Manual	53717
NFS-640 Installation Manual	51332
NFS2-640 Installation Manual	52741
NFS-3030 Installation Manual	51330
NFS2-3030 Installation Manual	52544
AM2020/AFP1010 Installation Manual	15088
NCA Network Control Annunciator	51482
NCA-2 Network Control Annunciator	52482
Notifier Device Compatibility Document	15378

Table 1.2 Related Documentation

1.4 Description

The Universal Digital Alarm Communicator/Transmitter (UDACT-2) may be used with a variety of control panels. The UDACT-2 transmits system status to UL Listed Central Station Receivers, using modular jacks to interface primary and secondary phone lines to the public switched telephone network. The UDACT-2, which is compact in size, mounts internally in some panels or externally in a separate enclosure. EIA-485 annunciator communications bus and 24 volt (nominal) connections are required. Install HWF2A-COM or HWF2V-COM IP Digital communicators alongside the UDACT-2 to provide a secondary transmission path in lieu of a second phone line, per UL 864 10th edition requirements (41.3.2.9). The UDACT-2 is compatible with the following panels and network annunciators:

- NFS2-3030
- NFS2-640
- NFS-320
- NCA-2
- AM2020/AFP-1010
- AFP-300/400

- NFS-3030
- NFS-640
- AFP-200
- NCA
- NFS-320SYS

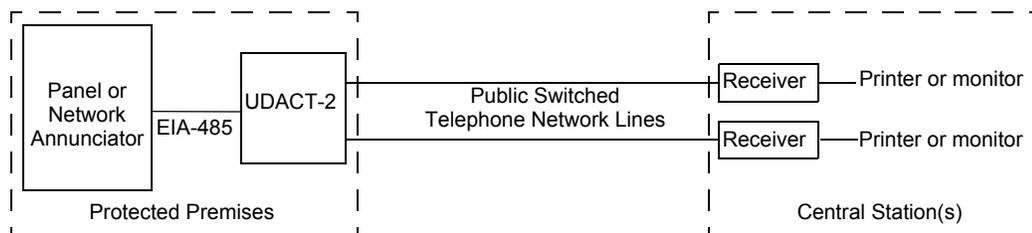**NOTE:**   Only one UDACT-2 can be installed on a host's EIA-485 ACS circuit.

Figure 1.1 Block Diagram of a UDACT-2 Setup

For current and compatible firmware, log onto www.notifier.com and visit the Resources tab.

1.5 Features

- Dual telephone lines.
- Dual telephone line voltage detection.
- Digital Communicator provides:
  - Line Seizure - takes control of the phone lines disconnecting any premises phones
  - Dial tone recognition - 440 hertz tone typical in most networks
  - Central Station number(s) dialing, Touch-Tone®
  - Protocols: SIA, 4 + 2, Ademco Contact ID.
- Programming created with VeriFire Tools, downloaded to UDACT-2 through USB port.
- Manual test report function.
- Manual master transmission clear function.
- Compact in size: 6.75" x 4.25".
- Mounts in the panel box or in a separate enclosure.
- Communicates vital system status including:
  - Independent zone/point alarm, trouble and supervisory
  - Security, panel off-normal, NAC trouble
  - AC (main) power loss (programmable report delay).
- LED status indicators for power, EIA-485 loss, primary and secondary line seizure, line failure, lack of tone, kissoff, communication failure, and manual test. (Refer to Table 1.3 on page 11 for a complete list.)
- Relay driver for Total Communication Failure or UDACT-2 trouble.
- Real Time Clock keeps time for up to 48 hours when the UDACT-2 is unpowered. (UDACT-2 must be powered for 24 hours or longer to ensure the 48 hours. Handling or moving the unit may discharge it faster.)
- Simple EIA-485 interface to host panel.
- Up to 14 point trouble messages transmitted per hour.

1.6 Specifications

1.6.1 DC Power - TB1

Requires 24VDC (nominal) regulated, non-resettable and power-limited power. Supervised.

52 mA in standby, 72 mA maximum while communicating and 87 mA with the output engaged and communicating.

12-18 AWG - wire must be sized for a voltage drop of no more than two volts.

1.6.2 EIA-485 - TB2

EIA-485 Serial Interface (EIA-485+, EIA-485–, Ref).

Power-limited source must be used. Supervised by control panel and UDACT-2.

12 - 18 AWG twisted shielded pair, characteristic impedance: 120 Ohms, +/- 20%.

1.6.3 Earth - TB2

12 AWG solid wire to provide lightning protection.

An earth ground connection to the UDACT-2 is required for transient protection.

1.6.4 Relay Drive - TB4

Output rated at 40 mA. Power limited, unsupervised.

Drives UL-listed relay MR-101/C or MR-201/C.

Normal output condition is ON (energized).

1.6.5 Telephone

> **NOTE:** This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the back of the UDACT-2 is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.

Circuitry

Ringer Equivalence Number (REN) = 0.0B

- AC Impedance 10.0 Mega Ohm
- Mates with RJ31X Male Connector
- Supervision Threshold: less than 4.0 volts for 2 minutes
- FCC Registration Number: US:1W6AL00BUDACT2

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive REN on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the REN should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total REN, contact the telephone company to determine the maximum REN for the calling area.

Before connecting the UDACT-2 to the public switched telephone network, the installation of two RJ31X jacks is necessary. The following information is provided if required by the local telephone company:

Manufacturer:	Honeywell Life Safety 12 Clintonville Road Northford, CT 06472
Product Model Number:	UDACT-2
FCC Registration Number:	US:1W6AL00BUDACT2
Ringer Equivalence:	0.0B

> ⚠ **CAUTION:**
> THE UDACT-2 MUST NOT BE USED TO DIAL A PHONE NUMBER THAT IS CALL-FORWARDED PER REQUIREMENTS OF UL 864 10TH EDITION.

1.6.6 Telephone Company Rights and Warnings

The telephone company under certain circumstances may temporarily discontinue services and/or make changes in its facilities, services, equipment or procedures which may affect the operation of this control panel. However, the telephone company is required to give advance notice of such changes or interruptions.

If the control panel causes harm to the telephone network, the telephone company reserves the right to temporarily discontinue service. Advance notification will be provided except in cases when advance notice is not practical. In such cases, notification will be provided as soon as possible. The opportunity will be given to correct any problems and to file a complaint.

DO NOT CONNECT THIS PRODUCT TO COIN TELEPHONE, GROUND START, OR PARTY LINE SERVICES..

When the control panel activates, premise phones will be disconnected.

Two separate phone lines are required. Do not connect both telephone interfaces to the same telephone line.

The control panel must be connected to the public switched telephone network upstream of any private telephone system at the protected premises.

An FCC compliant telephone cord must be used with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible RJ31X male modular plug which is Part 68 compliant.

1.6.7 For Canadian Applications

The following is excerpted from CP-01 Issue 5:

"NOTICE: The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

⚠ **CAUTION:**
USERS SHOULD NOT ATTEMPT TO MAKE SUCH CONNECTIONS THEMSELVES, BUT SHOULD CONTACT THE APPROPRIATE ELECTRIC INSPECTION AUTHORITY, OR ELECTRICIAN, AS APPROPRIATE.

The <u>Load Number</u> (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100."

Industry Canada (IC) Compliance - "This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications."

 IC Registration Number: <u>2132A-UDACT2</u>   REN (Ringer Equivalence Number): 0.0B
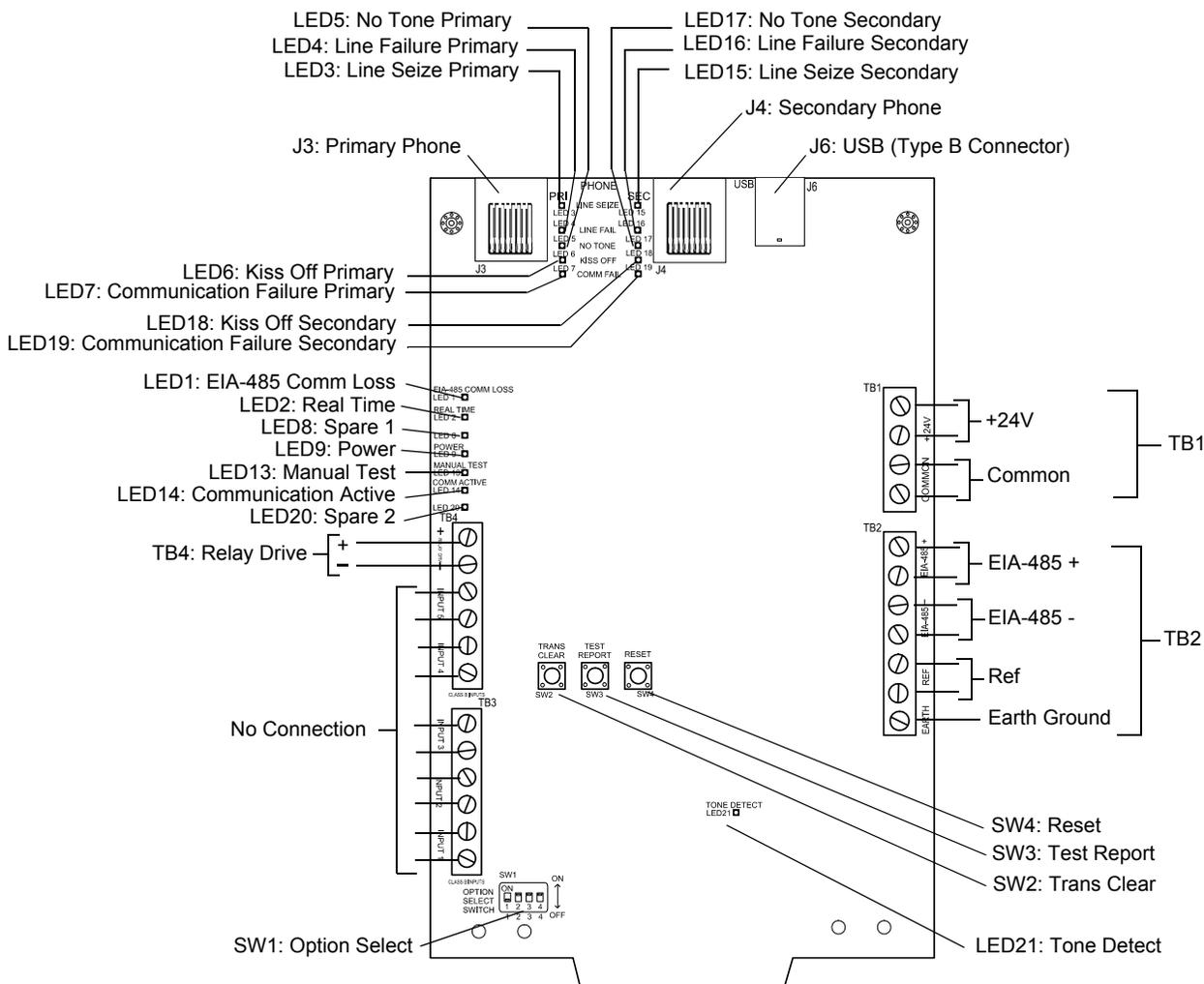
1.7 Board Layout

Figure 1.2 UDACT-2 Layout

LED #	LED Name	Color	Function
1	EIA-485 COMM LOSS	Yellow	Illuminates when the EIA-485 port loses communication.
2	REAL TIME	Yellow	Illuminates when the real time clock is not functioning properly. It also may light during power-up after the UDACT-2 has been turned off for awhile. To ensure that the UDACT-2's time is accurate, extinguish the LED by downloading the database, waiting 3 minutes, then pressing reset. (The UDACT-2 will get the correct time from the PC that does the download.) The light will extinguish within 3 minutes if the reset button is pressed without downloading the database, but the time may not be accurate without the accompanying download.
3	LINE SEIZE PRI	Red	LINE SEIZE PRIMARY - Illuminates when the primary phone line is seized.
4	LINE FAIL PRI	Yellow	LINE FAILURE PRIMARY - Illuminates when the primary phone line voltage test fails.
5	NO TONE PRI	Yellow	NO TONE PRIMARY - Illuminates when the primary phone connection does not receive a "handshake" tone from the Central Station. When the UDACT-2 is in transmit/receive mode, a trouble message is sent to the panel.
6	KISS OFF PRI	Red	KISS OFF PRIMARY - Illuminates when the Central Station does not acknowledge receipt of each transmitted message from the primary telephone.
7	COMM FAIL PRI	Yellow	COMMUNICATION FAILURE PRIMARY - Illuminates when the maximum number of attempts to reach both Central Stations has failed over the primary telephone line.
8	SPARE 1	Yellow	• Illuminates during initial SDRAM test during power up. Goes out when test is successfully completed. If this LED remains on for more than 30 seconds during power up, contact Customer Service for a replacement. • Illuminates when the UDACT-2's Class B relay outputs are de-activated, indicating the UDACT-2 is in trouble. • Illuminates in bootloader mode once the UDACT-2 is ready for download.
9	POWER	Green	Illuminates when there is 24VDC power.
13	MANUAL TEST	Red	Illuminates when a manual test has been initiated by pressing SW3 on the UDACT-2. The LED goes off automatically when the test transmission is complete.
14	COMM ACTIVE	Green	COMMUNICATION ACTIVE - Illuminates during USB communication.
15	LINE SEIZE SEC	Red	LINE SEIZE SECONDARY - Illuminates when the secondary phone line is seized.
16	LINE FAIL SEC	Yellow	LINE FAILURE SECONDARY - Illuminates when the secondary phone line voltage test fails.
17	NO TONE SEC	Yellow	NO TONE SECONDARY - Illuminates when the secondary phone connection does not receive a "handshake" tone from the Central Station. When the UDACT-2 is in transmit/receive mode, a trouble message is sent to the panel.
18	KISS OFF SEC	Red	KISS OFF SECONDARY - Illuminates when the Central Station does not acknowledge receipt of each transmitted message from the secondary telephone.
19	COMM FAIL SEC	Yellow	COMMUNICATION FAILURE SECONDARY - Illuminates when the maximum number of attempts to reach both Central Stations has failed over the secondary line.
20	SPARE 2	Yellow	• Illuminates while the initial CRC test is in progress. Turns off when this test has been successfully completed. If this LED remains on for more than 10 seconds during the initial CRC test, try downloading the application or database again. • Illuminates while downloaded application or database information is moved from the SDRAM to the UDACT-2's memory. It turns off when this process is complete. The DIP switch may be changed at this time back to the OFF position.
21	TONE DETECT	Yellow	Lights any time a tone is detected on a UDACT-2 phone line.

Table 1.3 LED Indicators

Switch #	Switch Name	Description
DIP1:1	Download App Mode	Set to ON when downloading an application. Set to OFF when downloading is complete. Normally OFF.
DIP1:2	Download DBase Mode	Set to ON when downloading a database. Set to OFF when downloading is complete. Normally OFF.
DIP1:3	Piezo	The piezo sounds when troubles are found at startup, or when the UDACT-2 is in trouble. UDACT-2 troubles are: • EIA-485 fail • phone line voltage test fail • phone line communication fail • no handshake tone detected.
DIP1:4	EIA-485 termination	Connects a 120 Ohm terminating resistor on the EIA-485 bus when set to ON. Set to ON when the UDACT-2 is the last or only EIA-485 device.
2	TRANS CLEAR	Press and hold this button switch down for over 3 seconds to immediately stop UDACT-2 transmissions, hang up from the telephone network, clear out any messages that were waiting for transmission and reset, and return to normal system processing.

Table 1.4 Switches (1 of 2)

Switch #	Switch Name	Description
3	TEST REPORT	Press and hold this button switch down for over 3 seconds to have the UDACT-2 transmit a test message to both Central Stations. The message reported is the same as the automatic test message for all formats except Ademco Contact ID.
4	RESET	Press this button switch down for a hardware reset.

Table 1.4 Switches (2 of 2)

Section 2: Installation and Wiring

2.1 Installation Options

The UDACT-2 is either installed internally in the panel cabinet or remotely in an ABS-8RB, UBS-1B or UBS-1R enclosure. The following table contains information specific to each panel that is compatible with the UDACT-2. See "Internal Installation" on page 13 for instructions on internal installation and "Remote Installation" on page 17 for instructions on remote installation. Additional information required for installing the UDACT-2 in a specific Fire Alarm Control Panel will be found in the appropriate appendix relating to that panel.

Host Control Panel	Host Panel Cabinet Style	Remote Cabinet	Where Installed
AFP-200	AFP-200 Cabinet	ABS-8RB, UBS-1B, UBS-1R	Remote Only
AFP-300/AFP-400	CAB-400AA	ABS-8RB, UBS-1B, UBS-1R	Remote Only
	CAB-3/4 Series	ABS-8RB, UBS-1B, UBS-1R	Internal or Remote
AM2020/AFP1010	CAB-3/4 Series	ABS-8RB, UBS-1B, UBS-1R	Internal or Remote
NCA-2	CAB-3/4 Series	ABS-8RB, UBS-1B, UBS-1R	Internal or Remote
NCA	CAB-3/4 Series	ABS-8RB, UBS-1B, UBS-1R	Internal or Remote
NFS2-640	CAB-3/4 Series	ABS-8RB, UBS-1, UBS-1B, UBS-1R	Internal or Remote
NFS-320	NFS-320 Cabinet	ABS-8RB, UBS-1, UBS-1B, UBS-1R	Internal or Remote
NFS-320SYS	CAB-3/4 Series	ABS-8RB, UBS-1B, UBS-1R	Internal or Remote
NFS-640	CAB-3/4 Series	ABS-8RB, UBS-1B, UBS-1R	Internal or Remote
NFS2-3030	CAB-3/4 Series	ABS-8RB, UBS-1B, UBS-1R	Internal or Remote
NFS-3030	CAB-3/4 Series	ABS-8RB,UBS-1B, UBS-1R	Internal or Remote

Table 2.1 Installation Options

Internal Installation

⚠ **CAUTION:**
REMOVE ALL POWER FROM THE CONTROL PANEL BY DISCONNECTING AC AND BATTERIES BEFORE INSTALLATION OR MAKING ANY CONNECTIONS TO PREVENT PERSONAL AND/OR CIRCUIT DAMAGE.

■ Mounting on the NFS-320 Chassis

The UDACT-2 is installed on the chassis within the NFS-320 backbox as described and shown below:

Step	Action
1	Disconnect AC power and disconnect batteries.
2	Remove the KDM-R2 keypad. Do not remove the onboard power supply.
3	Remove the two 1" standoffs from the bottom of the CPU and replace with the two #4-40 x 0.5" standoffs provided with the UDACT-2.
4	Position the UDACT-2 on the standoffs and fasten with two #4-40 x 0.25" screws provided.
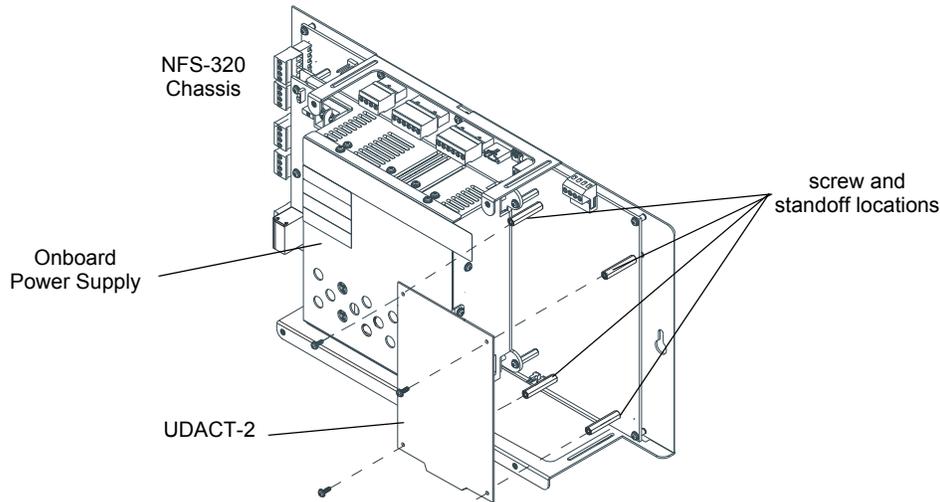
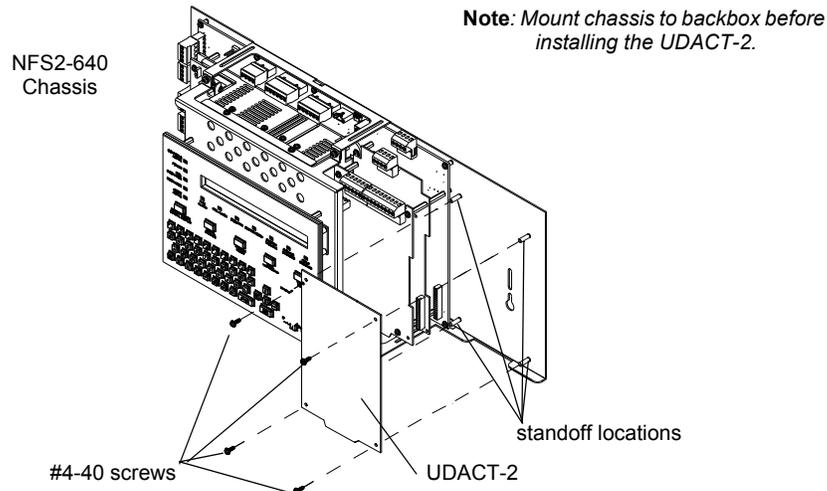**Figure 2.1 NFS-320 Chassis Installation**

■ NFS2-640 Chassis Mounting

The UDACT-2 is installed on the NFS2-640 chassis within the NFS2-640 backbox as described and shown below:

Step	Action
1	Disconnect AC power and disconnect batteries.
2	Position the UDACT-2 on the standoffs and fasten with #4-40 screws.

NOTE: The UDACT-2 can be mounted in the fourth column of the NFS2-640 Chassis. Be sure to mount the chassis to the backbox before mounting the UDACT-2.

Figure 2.2 NFS2-640 Chassis Installation

■ CHS-M2 Chassis Mounting

The UDACT-2 is installed on a CHS-M2 Chassis within the NFS-640 control panel backbox as described and shown below:

Step	Action
1	Disconnect AC power and disconnect batteries.
2	Insert the tab at the bottom of the board into the chassis slot as indicated.
3	Position the UDACT-2 on the standoffs and fasten with #4 screws.
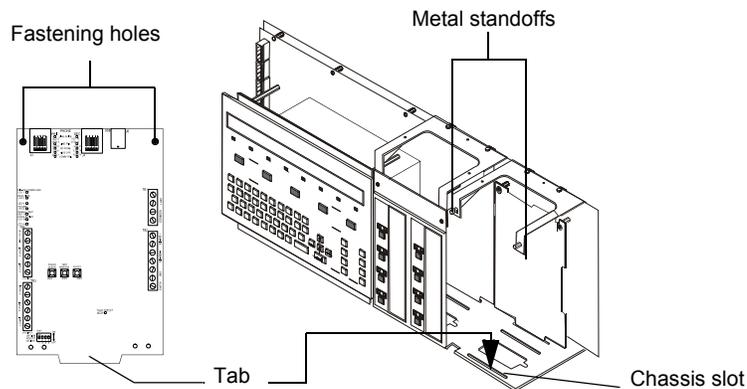
Figure 2.3 CHS-M2 Installation

■ CHS-4

The UDACT-2 may be mounted in the CHS-4 chassis within the control panel backbox as described and shown below.

Step	Action
1	Disconnect AC power and disconnect batteries.
2	Insert the tab at the bottom of the board into the chassis slot as indicated.
3	Position the UDACT-2 on the standoffs and fasten with #4 screws.

▤ **NOTE:**   The UDACT-2 can be mounted only in one of the front positions of this chassis.

Four Possible Mounting Positions

Screws

Chassis slot
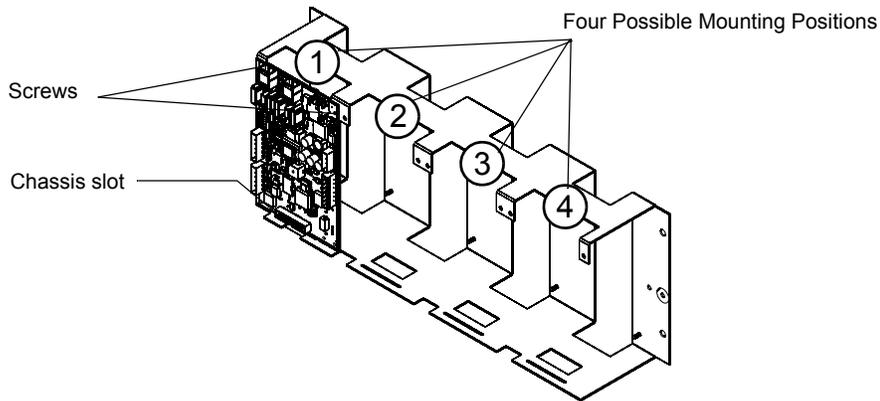
UDACT-2_CHS-4.wmf

Figure 2.4 CHS-4 Installation

■ CHS-4L

The UDACT-2 may be mounted in the CHS-4L chassis within the control panel backbox as described and shown below.

| Step	Action
1	Disconnect AC power and disconnect batteries.
2	Insert the tab at the bottom of the board into the chassis slot as indicated.
3	Position the UDACT-2 on the standoffs and fasten with #4 screws.

▤ **NOTE:**   The UDACT-2 can be mounted in one of the rear positions of this chassis.

Four Possible Mounting Positions

Screws

Chassis slot
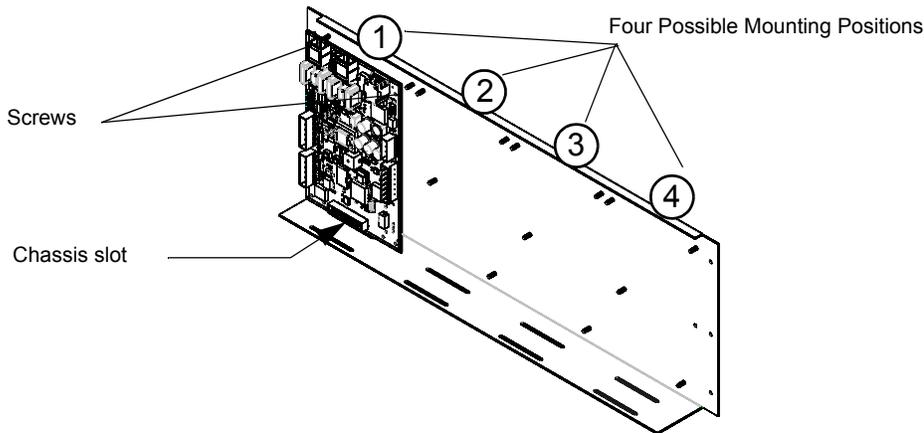
UDACT-2_CHS-4L.wmf

Figure 2.5 CHS-4L Installation

■ CA-1

The UDACT-2 may be mounted in the CA-1 chassis behind the DVC or NCA-2 as described and shown below.

Step	Action
1	Disconnect AC power and disconnect batteries.
2	Position the UDACT-2 on the standoffs and fasten with #4 screws.
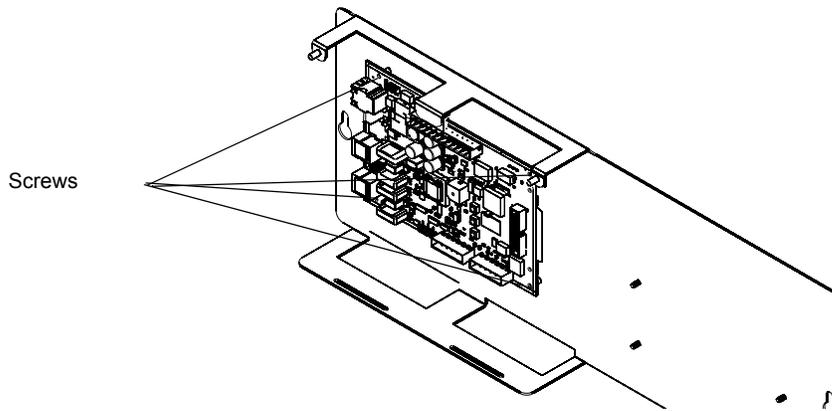
UDACT-2_CA-1.wmf

Figure 2.6 CA-1 Installation

■ CA-2

The UDACT-2 may be mounted in the CA-2 chassis behind the DVC, NFS2-3030 or NCA-2 as described and shown below.

Step	Action
1	Disconnect AC power and disconnect batteries.
2	Position the UDACT-2 on the standoffs and fasten with #4 screws.
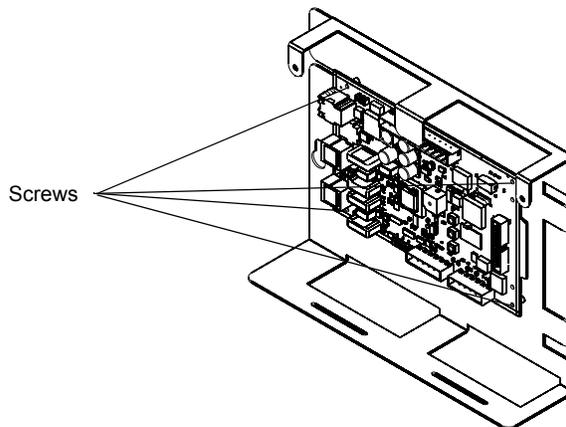
UDACT-2_CA-2.wmf

Figure 2.7 CA-2 Installation

■ CHS-M3

The UDACT-2 can mount in back of an NFS2-3030, or on one of the front mounting spaces to the right of it.

Mounting in back of an NFS2-3030:

Step	Action
1	Disconnect AC power and disconnect batteries.
2	Position the UDACT-2 on the standoffs and fasten with four #4 screws.

Mounting to the right of an NFS2-3030:

Step	Action
1	Disconnect AC power and disconnect batteries.
2	Insert the tab at the bottom of the board into the chassis slot as indicated.
3	Position the UDACT-2 on the standoffs and fasten with two #4 screws.
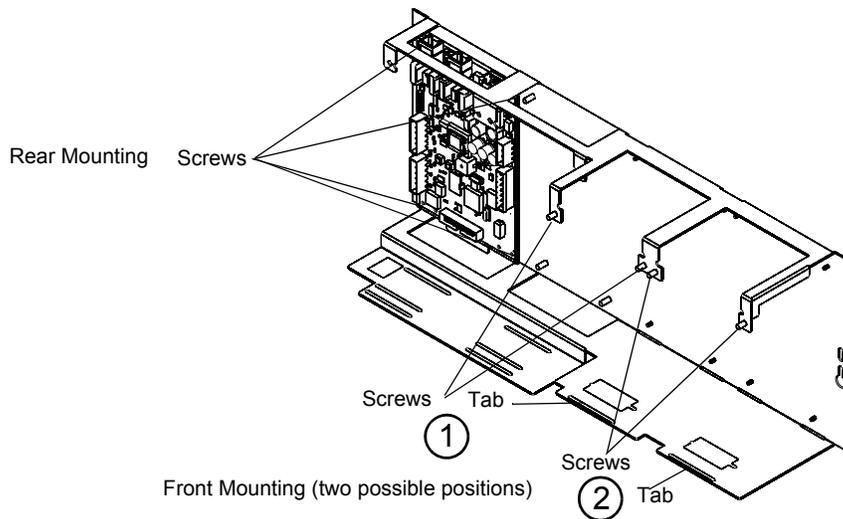
UDACT-2_CHS-M3.wmf

Figure 2.8 CHS-M3 Installation

■ BMP-1 Blank Module Plate

The UDACT-2 mounts on the back of a BMP-1 blank module plate, so it can be mounted on a DP-DISP, DP-DISP2, or ADP-4B dress panel.

Step	Action
1	Disconnect AC power and disconnect batteries.
2	Mount the BMP-1 onto a DP-DISP, DP-DISP-2, or ADP-4B dress panel by placing it over the two threaded studs and fastening with two 4-40 KEPS hex nuts (included with BMP-1) as indicated.
3	Attach four 3/16" hex standoffs (p/n 42170, included with UDACT-2) to the BMP-1's four threaded studs.
4	Align the UDACT-2 over the standoffs and fasten with four 4-40 screws (included with UDACT-2, p/n 38122).
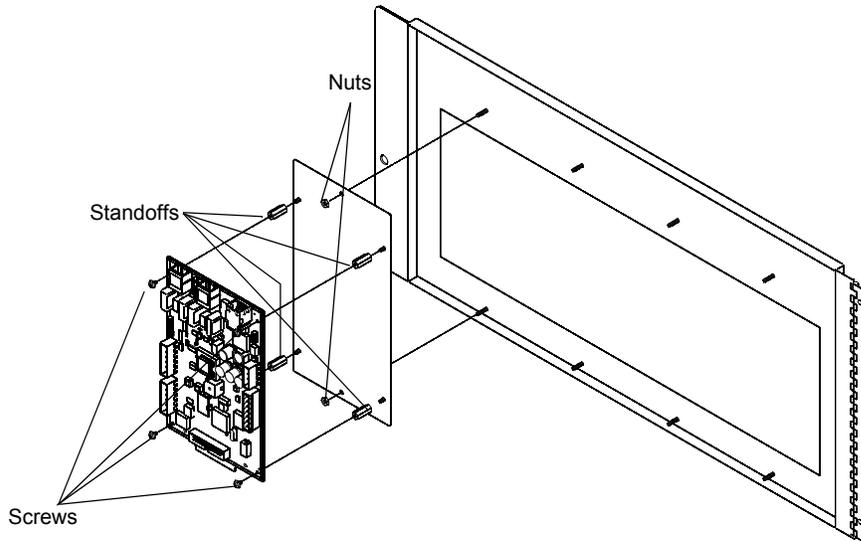
udact-2 to bmp-a to dp-disp.wmf

Figure 2.9 BMP-1 and Dress Panel Installation

Remote Installation

For remote installation, the UDACT-2 can mount in an ABS-8RB, UBS-1B, or UBS-1R enclosure. The unit must be placed within the same room and within 20 feet (6.1 meters) of the panel or network annunciator. Wiring must be enclosed in conduit.

■ **ABS-8RB**

The UDACT-2 comes with an insulating barrier that must be used in this installation.

| Step	Action
1	Place the UDACT-2 inside the folds of the insulating barrier, as shown below.
2	Align the UDACT-2 and insulating barrier over the four (4) threaded standoffs at the back of the ABS-8RB enclosure.
3	Secure using the four (4) screws supplied with the enclosure. Tighten securely.
4	After completion of connections and programming, secure cover to ABS-8RB box with two (2) screws. Tighten securely.
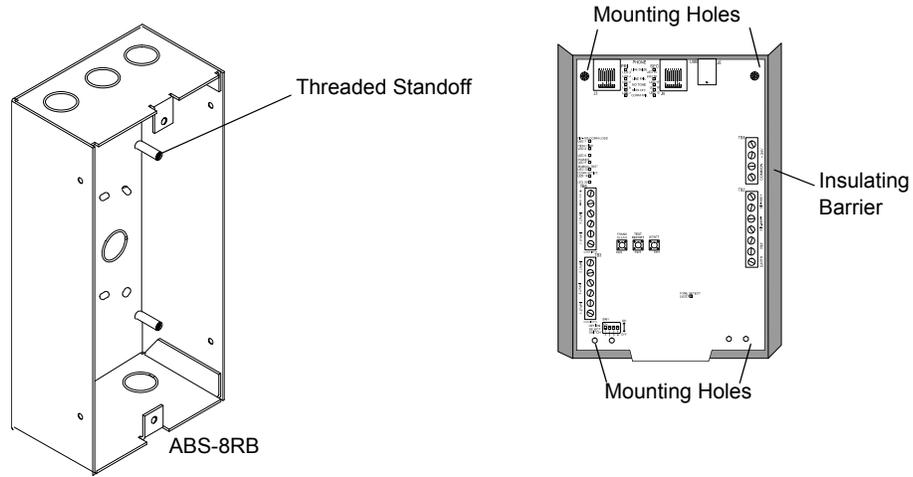
Figure 2.10 ABS-8RB Installation

■ **UBS-1B and UBS-1R**

These cabinets come with door and UDACT-2 mounting plate. The mounting plate comes attached to the backbox.

Step	Action
1	Align the UDACT-2 over the four (4) threaded standoffs at the back of the UBS-1B/R enclosure.
2	Secure using the four (4) screws supplied with the UDACT-2. Tighten securely.
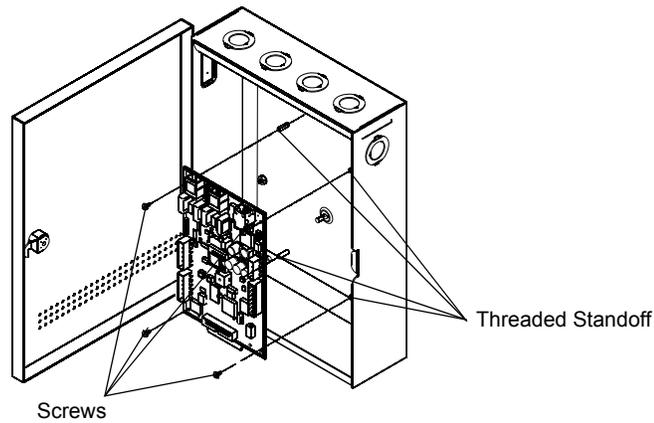
Figure 2.11 UBS-1B/R Installation

2.2 TB1 - 24 VDC Power Connections

24 VDC filtered, non-resettable power is connected between the Main Power Supply of the panel and the UDACT-2 using twisted pair wire.

One +24V and one Common terminal are used for input from the power source. The other terminals may be used as pass throughs to the next device from the power source.
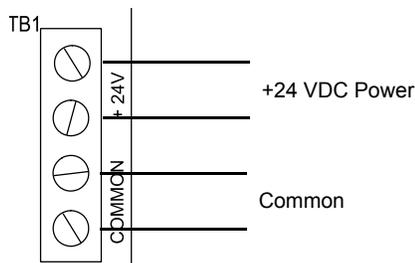

Figure 2.12 TB1 Power Connections

2.3 TB2 - EIA-485 Connections

Communications between the UDACT-2 and the host control panel is accomplished over a two wire EIA-485 serial interface which is power-limited and supervised by the control panel and the UDACT-2. The wiring connections are made to the EIA-485 +, EIA-485 –, and REF terminals of TB2 on the UDACT-2.

The EIA-485 circuit cannot be T-Tapped and must be wired in a continuous fashion from the control panel to the UDACT-2 and, if installed, annunciators. Limit the total wire resistance to 100 Ohms on the EIA-485 circuit. Do not run cable adjacent to, or in the same conduit as 120 volts AC service, noisy electrical circuits that are powering mechanical bells or horns, audio circuits above 25 volts RMS, motor control circuits, or SCR power circuits.
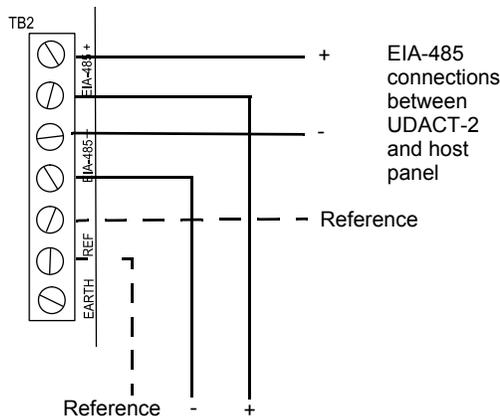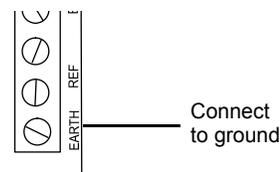

EIA-485 connections between UDACT-2 and next device

Figure 2.13 TB2 EIA-485 Interface Connections

NOTE: Only one UDACT-2 can be installed on a host's EIA-485 ACS circuit.

2.4 TB2 - Earth Connection

An earth ground connection to the UDACT is required for transient protection. TB2 provides a connection to ground for lightning protection.

Figure 2.14 TB2 Earth Connection

2.5 Telephone Connections - J3 and J4

Provision to connect to two independent telephone lines is available via two telephone jacks labeled "PRI" (Primary) and "SEC" (Secondary). Telephone line control/command is possible via double line seizure using an RJ31X style interconnection. (RJ31X jacks must be ordered separately).

NOTE: It is critical that the UDACT-2 be located as the first device on the incoming telephone circuit to properly function.

Important! *The UDACT-2 must <u>not</u> be used to dial a phone number that is call-forwarded per requirements of UL 864 10th Edition.*
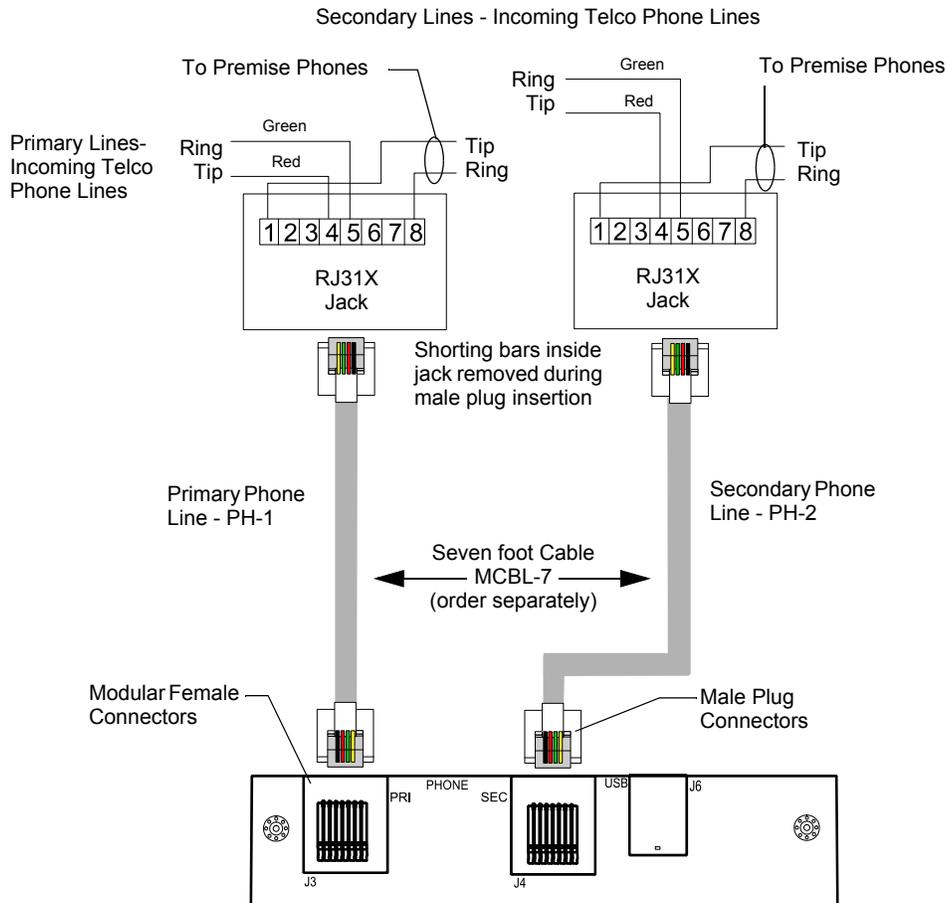
Secondary Lines - Incoming Telco Phone Lines

Figure 2.15 Wiring Phone Jacks

2.6 Relay Driver (Auxiliary Output) Connections - TB4

The UDACT-2's output on TB4 (RELAY DRIVE), is provided for Communicator Failure and UDACT-2 trouble. It can be used to drive UL-listed relay MR-101/C or MR-201/C. The output is rated for 40 mA. The normal condition for the output is ON (energized).

Communicator Failure occurs when the maximum number of attempts to reach both Central Stations has taken place or when both phone lines are disconnected. UDACT-2 trouble conditions include loss of telephone line voltage to the primary and/or secondary phone lines, communication failure to the primary or secondary Central Stations, total communication failure, entry into program, type, and trouble-shoot modes.

Wiring from the UDACT-2 terminal TB4 to the relay must be in the same room, no more than 20 feet in length, and enclosed in conduit. Wiring from the relay output contacts must remain in the same room as the UDACT-2.

When the UDACT-2 is programmed for "Receive Only" (typically this occurs when annunciators are also used and are set for "Receive/Transmit"), the relay output is used to provide a UDACT-2 trouble input to the host control panel. Use an FMM-1 module to supervise the relay closure (refer to Figure 2.17 on page 21). Program the custom label field to read "UDACT-2 Trouble".

When the UDACT-2 is programmed for "Receive/Transmit", EIA-485 supervision and UDACT-2 trouble status are automatically handled by the host control panel. The relay output may, however, be used for UDACT-2 communications failure if desired.
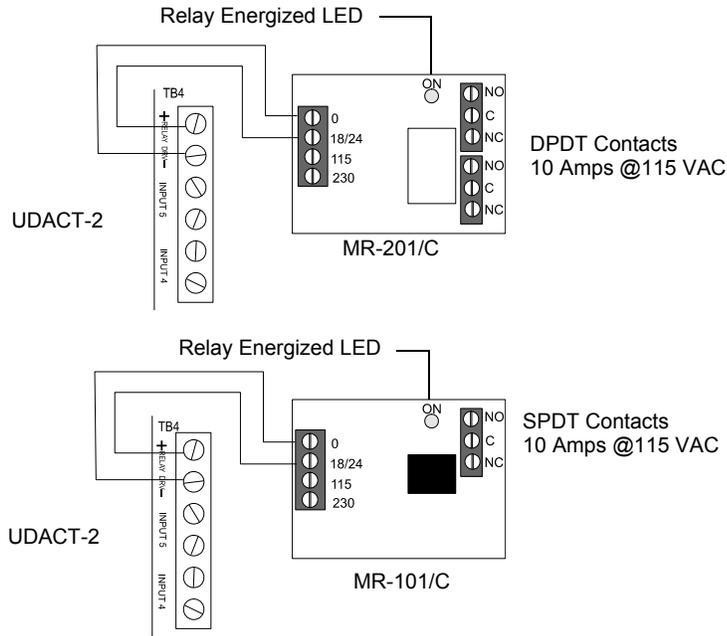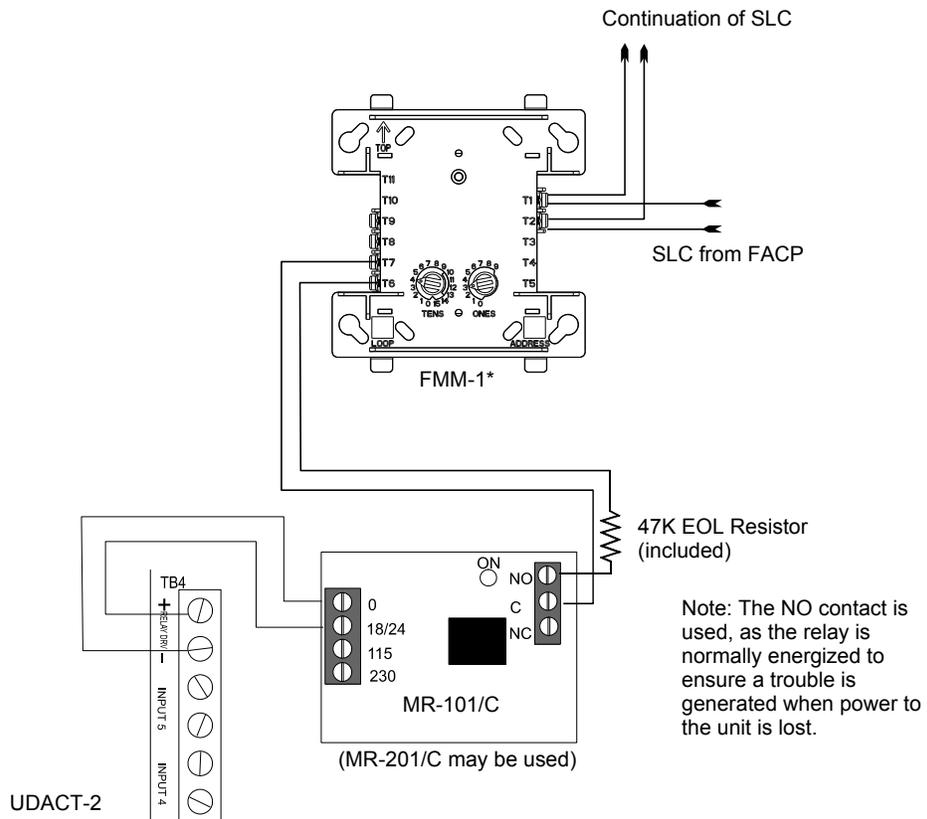

Figure 2.16 Relay Driver Connections

*If the SLC device does not match the one in this figure, refer to the SLC manual appendix, which contains wiring conversion charts for type V and type H modules.

NOTE: An FMM-1 Monitor Module is used to supervise the Normally Open output of MR-101/C. If a Trouble Condition or Communication Failure occurs on the UDACT-2, the MR-101/C relay contact will close, causing the FMM-1 to transmit a trouble condition to the FACP.

Figure 2.17 Monitoring for UDACT-2 Trouble

2.7 USB Port - J6

The UDACT-2's USB port (J6) provides a USB Type B connection for a computer running VeriFire Tools for UDACT-2 programming.
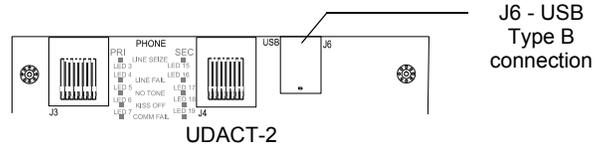
Figure 2.18 USB Port, J6

2.8 UL Power-limited Wiring Requirements

Power-limited and nonpower-limited circuit wiring must remain separated in the cabinet. All power-limited circuit wiring must remain at least 0.25" (6.35 mm) away from any nonpower-limited circuit wiring. Furthermore, all power-limited circuit wiring and nonpower-limited circuit wiring must enter and exit the cabinet through different knockouts and/or conduits.
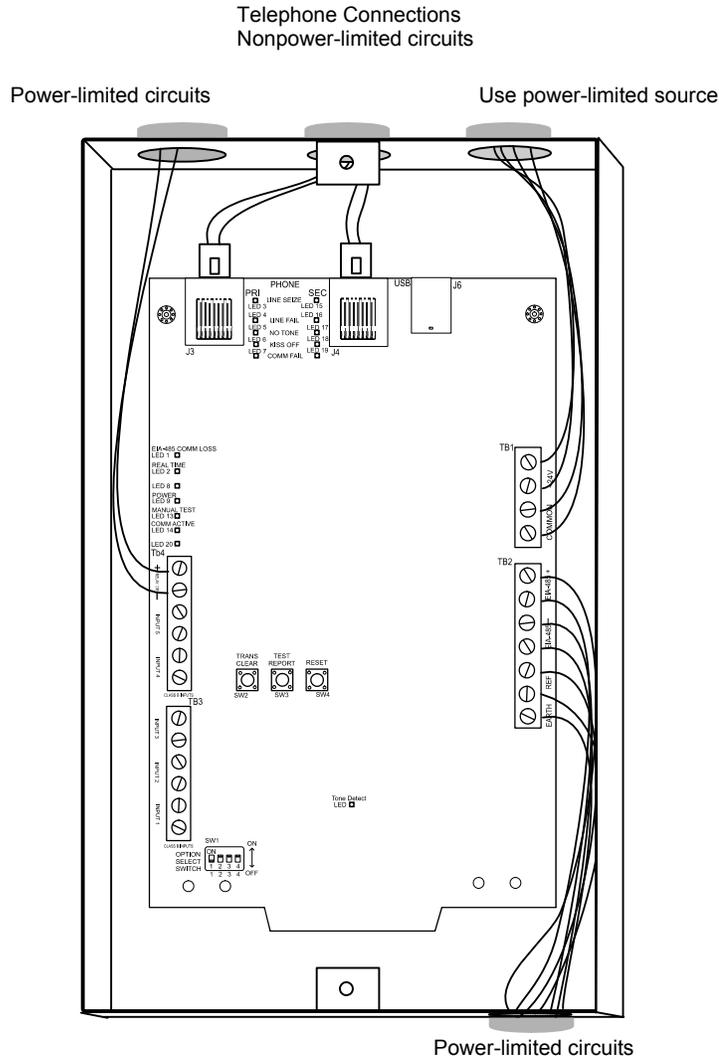
Figure 2.19 Typical Wiring for UL Power-limited Requirements

Section 3: Programming

The UDACT-2 is programmed using VeriFire Tools, version 6.6 or higher.

> **NOTE:** Only one UDACT-2 can be installed on a host's EIA-485 ACS circuit.

> **NOTE:** Check the time on the laptop used for VeriFire Tools programming for accuracy. The 24 hour test time is determined from the laptop's time signature taken from the downloaded VeriFire Tools database.

3.1 General Settings 1

Figure 3.1 General Settings 1 Screen

Node ID: Select the node number of the UDACT-2's host panel.

Panel Type: Select the UDACT-2's host panel or network annunciator type. The NFS-320 menu selection includes the NFS-320SYS.

Reporting Type: Select from the following lists of reporting types.

- Disable Communications - Select this option to disable Central Station reporting.
- Zone Reporting, Receive Only - Select when the UDACT-2 will receive messages from the panel, but will not transmit back to the panel. When "Receive Only" is selected, an external trouble relay must be used. Refer to Section 2.6 on page 20. This selection should be made when an annunciator shares the same EIA-485 address as the UDACT-2.
- Zone Reporting, Receive/Transmit - Select when the UDACT-2 will receive messages from the panel, and will transmit a response back to the panel. Typically this selection is made when a UDACT-2 does not share an EIA-485 address with another device.
- Point Reporting, Receive Only - Select when the UDACT-2 will receive messages from the panel, but will not transmit back to the panel. When "Receive Only" is selected, an external trouble relay must be used. Refer to Section 2.6 on page 20. This selection should be made when an annunciator shares the same EIA-485 address as the UDACT-2.
- Point Reporting, Receive/Transmit - Select when the UDACT-2 will receive messages from the panel, and will transmit a response back to the panel. Typically this selection is made when UDACT-2 does not share an EIA-485 address with another device.

The AFP-200 panel does not accommodate Point Reporting.

AC Loss Reporting Delay: Select the time delay for AC Loss Reporting. Values are 1, 2, 6, 7, 8, 9, 10, 11, 15, 16, 17, 20, 21, 22 and 23 hours, and Immediate for immediate reporting. Refer to "Programming Features Subject to AHJ Approval" on page 7 for UL-compliant values.

Backup Reporting: Select the type of backup reporting desired. Reports will be transmitted to the secondary phone number when attempts to notify the primary phone number fail, or reports will always be transmitted to the secondary phone number.

Daylight Savings Time: Select Enabled or Disabled.

Daylight Savings Format: Select" Day of Week" or "Date"

- Day of Week - Select the starting and ending weeks, days, months and times. The start and stop times must be at least 24 hours apart.
- Date - Select the specific starting and ending month and day. The day fields must be in different months.

ACS Addresses: Select a start and end address for addresses that will be monitored.

- The NFS2-3030, NFS-3030, NCA-2, NCA, AM2020 and AFP1010 use:

- 32 addresses - 1-32 - for point reporting

⚠️ **CAUTION:**
THE START ADDRESS MUST EQUAL THE HOST'S UDACT-2 ACS ADDRESS.

- The NFS2-640, NFS-640, NFS-320/NFS-320SYS use:
    - two monitoring addresses - 20 and 21 - for zone reporting.
    - ten monitoring addresses - 22 through 31 - for point reporting.
- The AFP-300 and AFP-400 use:
    - two monitoring addresses - 11 and 12 - for zone reporting
    - seven addresses - 13 through 19 - for point reporting.
- The AFP-200 uses two monitoring addresses - 1 and 2 - for zone reporting.

Start Daylight Savings Time - Enter start day, month, time.

End Daylight Savings Time - Enter end day, month, time.

UDACTM: This box activates for NFS2-640 and NFS-320 panels when a point reporting type is selected. Check the box to enable 4-point UDACT-2 reporting (Alarm, Trouble, Dirty 1, Dirty 2) when the UDACT-2 is programmed as Option 2 in ACS programming on these panels.

Note: This option enables the UDACT-2 to report Alarm, Trouble, Dirty 1 (Maintenance) and Dirty 2 (Maintenance Urgent) per addressable detector. Note that enabling this option will limit the system to only report the first 100 detector (L1D1 - L1D100/L2D1-L2D100) and module (L1M1-L1M100/L2M1-L2M100) addresses per loop. Addresses higher than 100 are supported by the system but will not report.

3.2 General Settings 2

General Settings 2		⌃
	Name	Value
−	**Primary**	
	Primary Format	4+2 Standard
	Primary PhoneNumber	*91234567890
	Primary Account Code	2546
	Primary Test Time Interval	6
	Primary 24Hour TestTime(hh:mm)	07:30
−	**Secondary**	
	Secondary Format	Ademco Contact Id
	Secondary PhoneNumber	E91234567891
	Secondary Account Code	5245
	Secondary Test Time Interval	4
	Secondary 24Hour TestTime(hh:mm)	10:30
−	**Security Industry Association Device Address**	
	SIA Device Address	Disable
−	**Ademco Contact Id**	
	Device Addresses Group	00
	General Points Device Number	000
−	**Additional Phone Commands**	
	*	* - Phone Service Dependent
	#	# - Phone Service Dependent
	C	C - Look for secondary dial tone for upto 2 seco...
	D	D - 3 second pause
	E	E - 5 second pause

Genrl 2 tab.jpg

Figure 3.2 General Settings 2 Screen

Primary:

Primary Format: Select SIA, 4+2 standard*, or Ademco Contact ID.

Primary Phone Number: Enter the primary phone number. The phone number may be preceded by one or more command codes. See the description of the "Additional Phone Commands" field below.

Primary Account Code: Enter the vendor account code for the primary phone number. The field for 4+2 Standard and Ademco Contact ID accommodates four digits. The field for SIA accommodates six digits.

Primary Test Time Interval: Select 4, 6, 8, 12, or 24 for automatic test report transmission to the primary phone number every 4, 6, 8, 12, or 24 hours.

Note that if the primary and secondary test times are different, the first test message will select the primary line. The next test message will select the secondary phone line. The line selection will continue to alternate in this manner.

If the primary and secondary test times are the same, the secondary line will be used for both messages and no alternation will occur.

📄 **NOTE:**   Test time intervals exceeding 6 hours do not comply with UL 864 10th Edition.

Primary 24 Hour Test Time: Enter the start time (in HH:MM format, where HH = 00 to 23 hours, MM = 00 to 59 minutes) at which the test should be performed and transmitted. The first test will be performed at that time, and again as indicated by the Test Time Interval setting.

*Note: When using 4 + 2 Format, some receivers will display the character "A" as "0".

Secondary:

Secondary Format: Select SIA, 4+2 standard*, or Ademco Contact ID.

Secondary Phone Number: Enter the secondary phone number. The phone number may be preceded by one or more command codes. See the description of the "Additional Phone Commands" field below.

Secondary Account Code: Enter the vendor account code for the secondary phone number. The field for 4+2 Standard and Ademco Contact ID accommodates four digits. The field for SIA accommodates six digits.

Secondary Test Time Interval: Select 4, 6, 8, 12, or 24 for automatic test report transmission to the secondary phone number every 4, 6, 8, 12, or 24 hours.

> **NOTE:** Test time intervals exceeding 6 hours do not comply with UL 864 10th Edition.

Secondary 24 Hour Test Time: Enter the time (in HH:MM format, where HH = 00 to 23 hours, MM = 00 to 59 minutes) at which the test should be performed and transmitted. The first test will be performed at that time, and again as indicated by the Test Time Interval setting.

*Note: When using 4 + 2 Format, some receivers will display the character "A" as "0".

SIA Device Address: This field appears if SIA has been selected as the format for either the primary or secondary phone number. Select whether to have the device address appear in Central Station reporting or not by selecting "Enable" or "Disable".

Ademco Contact ID: These optional fields appear if Ademco Contact ID has been selected as the format for either the primary or secondary phone number. Entries in these fields will appear in the reporting at the Central Station.

- Group - enter a value of 1 through 99. The number entered will appear in the "GG" reporting field described in Section 5.2, "Ademco Contact ID", on page 29.
- General Points Device Number - enter a value of 1 through 999. The number will appear in the "CCC" reporting field for general reports. Refer to Section 5.2, "Ademco Contact ID", on page 29.

Additional Phone Commands:

The commands listed below may be added to the phone number. Multiple commands may be used.

- * - Phone Service Dependent - Functions as the * in the phone UDACT-2's phone system.
- # - Phone Service Dependent - Functions as the # in the phone UDACT-2's phone system.
- C - Look for secondary dial tone for up to 2 seconds (then, dial anyway).
- D - 3 second pause.
- E - 5 second pause.

3.3 Primary Number Event Codes

This screen displays the default Event Code assignments for the protocol selected for the primary telephone line. The Event Codes are user-programmable.

Figure 3.3 Primary Number Event Codes

Description: This display-only field gives a text description of the Event Code.

Setting: This field may be modified to accommodate the user. The field may be changed to an alpha code, numeric code, or alphanumeric code. SIA and "4+2" accomodate two digits, Ademco Contact ID accomodates three.

Default: Press to return the Setting fields to default values.

3.4 Secondary Number Event Codes

This screen displays the default Event Code assignments for the protocol selected for the secondary telephone line. The Event Codes are user-programmable
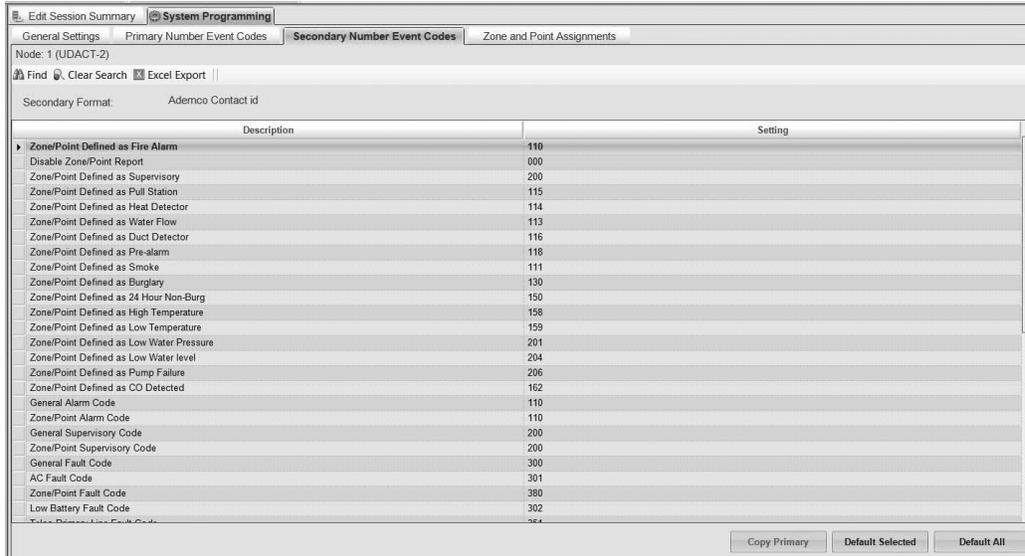

Figure 3.4 Secondary Number Event Codes Tab

Description: This display-only field gives a text description of the Event Code.

Setting: This field may be modified to accommodate the user. The field may be changed to an alpha code, numeric code, or alpha-numeric code. SIA and "4+2" accommodate two digits, Ademco Contact ID accomodates three.

Copy Primary: When the primary and secondary reporting formats are the same, this button will activate. Press to copy the Setting values entered at the Primary Number Event Codes tab.

Default: Press to return the Setting fields to default values.

3.5 Zone and Point Assignments

Zone and point assignments are displayed at this screen. The function default is to Fire Alarm.
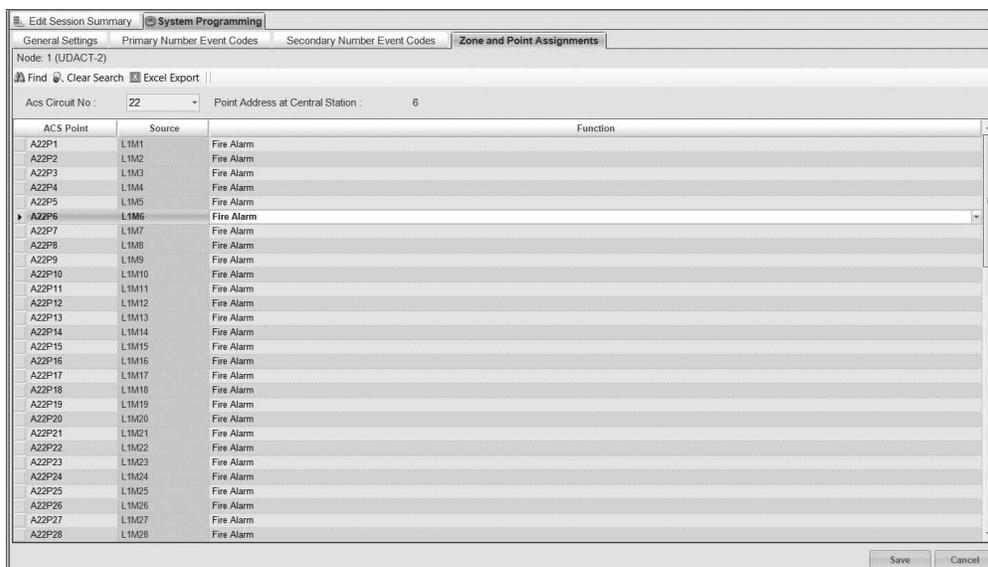
Figure 3.5 Zone and Point Assignments Tab

ACS Point: Automatically filled with ACS point numbers generated from the ACS addresses selected for monitoring in the General Settings screens (see page 23).

Source: This field appears when Zone reporting is selected in the General Settings screen (see page 23). It displays the zone source.

Function: Defaults to Fire Alarm. From the pull-down menu, select the point/zone type that matches the FACP's point type. Point/zone type selections are:

• Fire Alarm	• Water Flow	• 24 Hour Non-Burglary	• Pump Failure
• Disabled	• Duct Detector	• High Temperature	• Photo/CO detect
• Supervisory	• Pre-alarm	• Lower Temperature	
• Pull Station	• Smoke	• Low Water Pressure	
• Heat Detector	• Burglary	• Low Water Level	

⚠ **CAUTION:**

BE SURE THE CORRECT POINT TYPE IS ENTERED. IF THERE IS A MISMATCH BETWEEN THE UDACT-2'S POINT TYPE AND THE FACP OR NETWORK ANNUNCIATOR'S POINT TYPE, THE UDACT-2 WILL TRANSMIT A FIRE ALARM MESSAGE TO THE CENTRAL STATION WHEN THAT POINT ACTIVATES.

Point Address at Central Station: When an ACS point is selected in this tab, this field displays the point address number that will display on a report to the Central Station. It is read-only.

For the NFS2-3030, NFS-3030, NCA-2, NCA, AM2020 and AFP1010 the first eight points to be monitored by the Central Station are reserved for system trouble messages from the panel, and can not be programmed. Figure 3.5 above shows that the first eight addresses - A1P1 through A1P8 - are reserved for the panel. If the ACS addresses to be monitored had started with A2, A2P1 through A2P8 would be reserved for system trouble messages. These addresses do not generate a point address to the Central Station. A1P9 will display at the Central Station as Point Address 1.

For the NFS2-640 and NFS-320, point reporting is displayed below. Note that Loop 2 reporting is only available for the NFS2-640.

> Loop 1, Modules 1 - 64 report as device numbers 001 - 064
>
> Loop 2, Modules 1 - 64 report as device numbers 065 - 128
>
> Loop 1, Modules 65 - 128 report as device numbers 129 - 192
>
> Loop 2, Modules 65 - 128 report as device numbers 193 - 256
>
> Loop 1, Modules 129 - 159 report as device numbers 257 - 287 (288 is not used)
>
> Loop 2, Modules 129 - 159 report as device numbers 289 - 319 (320 is not used)
>
> Loop 1, Detectors 1 - 64 report as device numbers 321 - 384
>
> Loop 2, Detectors 1 - 64 report as device numbers 385 - 448
>
> Loop 1, Detectors 65 - 128 report as device numbers 449 - 512
>
> Loop 2, Detectors 65 - 128 report as device numbers 513 - 576
>
> Loop 1, Detectors 129 - 159 report as device numbers 577 - 607 (608 is not used)
>
> Loop 2, Detectors 129 - 159 report as device numbers 609 - 639 (640 is not used)

3.6 Report

A printed report with point or zone information can be generated from VeriFire Tools for an ONYX Series panel or network annunciator. In the UDACT-2 programming service, select UDACT-2 from the dropdown Reports Menu on the top menu bar.

📄 **NOTE:** Programming for the panel or network annunciator and the UDACT-2 must be contained in the same database for this report to generate.

The point report consists of the central station point address; ACS point, ACS point function; panel label; panel point; type code; custom and extended label; alarm verification and walktest participation; and presignal and PAS information. This report may be sent to the Central Station for their records.

The zone report consists of a grid with the central station point address; ACS point address; source; ACS point function; custom label; and panel label.

Section 4: Operation

4.1 Switches

4.1.1 SW1 - Option Select Switch

This DIP switch gives the user four UDACT-2 settings.

- Switch DIP1 - Download App mode.

  Set to ON prior to downloading an application file. Set to OFF when download is complete.

- DIP2 - Download Database mode.

  Set to ON prior to downloading a database file. Set to OFF when download is complete.
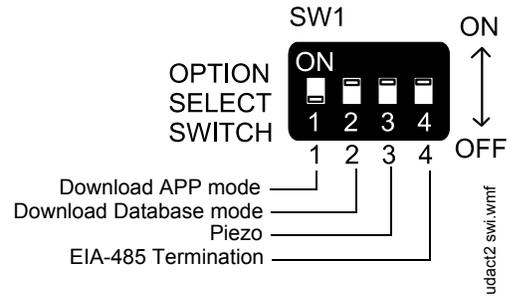

Figure 4.1 SW1 - Option Select Switch

> **NOTE:** DIP1 and DIP2 may both be ON at the same time. However, the UDACT-2 does not leave bootload mode until both switches are returned to the OFF position.

- Switch DIP3 - Piezo.

  Set to ON to have the piezo sound when an error occurs in self-test mode, or when the UDACT-2 is in trouble.

- Switch DIP4 - EIA-485 Termination

  Set to ON to enable a 120 Ohm terminating resistor on the EIA-485 bus. This setting is required if the UDACT-2 is the only or last device on the bus.

4.1.2 SW 2 - Trans Clear Button

Press and hold this button switch down for over 3 seconds to immediately stop UDACT-2 transmissions, hang up from the telephone network, clear out any messages that were waiting for transmission, and reset, and return to normal system processing.

4.1.3 SW 3 - Test Report Button

Press and hold this button switch down for over 3 seconds to have the UDACT-2 transmit a test message to both Central Stations. The message reported is the same as the automatic test message for all formats except Ademco Contact ID.

4.1.4 SW 4 - Reset Button

Press and hold this button switch down for a hardware reset.

4.2 Telephone Line Testing

Connect your telephone test set across a modular test adapter to test for a dial tone.

> ⚠ **WARNING:**
> DO NOT CONNECT TEST EQUIPMENT TO TRANSFORMER T1. DOING SO WILL DAMAGE THE TRANSFORMER.

Section 5: Reporting Formats

The formats sent by the UDACT-2 to the Central Station are set out in this section. Event codes are defined for each protocol.

Use Ademco Contact ID for specific zone or point identification.

Pulsed formats typically require 15 to 20 seconds for message transmission.

Refer to Section 6.1, "Compatible UL Listed Receivers", on page 33 for a list of compatible receivers.

5.1 "4 + 2" Standard

Standard "4 + 2" reporting consists of the following format:

XXXX EE

- XXXX = 4-digit Customer Account Code.
- EE = Event Code Refer to Table 5.1 for code definitions.

The table below shows the data reporting format for the "4+2 Standard" pulsed format.

Data Description	Data Reporting Format	
	4-digit Customer Account Code	Event Code
General Alarm	xxxx	11
Zone/point alarm code	xxxx	00
General Supervisory	xxxx	81
Zone/point supervisory code	xxxx	00
General Fault	xxxx	F1
AC Fault	xxxx	F6
Zone/point fault code	xxxx	00
Low Battery fault	xxxx	F8
Telco Primary Line Fault	xxxx	FA
Telco Secondary Line Fault	xxxx	FB
NAC Fault	xxxx	FC
Communication Trouble Primary #	xxxx	FD
Communication Trouble Secondary #	xxxx	FE
485 Communication Trouble	xxxx	FE
System Off Normal	xxxx	FF
Reserved	xxxx	00
Reserved	xxxx	00
Reserved	xxxx	00
Reserved	xxxx	00
Security alarm	xxxx	11
General Alarm restore	xxxx	E1
Zone/point alarm restore	xxxx	00
General Supervisory restore	xxxx	E2
Zone/point supervisory restore	xxxx	00
General Fault Restore	xxxx	E3
AC Fault Restore	xxxx	E6
Zone/point fault restore	xxxx	00
Low Battery Fault Restore	xxxx	E8
Telco Primary Line Fault Restore	xxxx	EA
Telco Secondary Line Fault Restore	xxxx	EB
NAC Fault Restore	xxxx	EC
Communication Trouble Primary Number Restore	xxxx	ED
Communication Trouble Secondary Number Restore	xxxx	EE
485 Communication trouble restore	xxxx	EE
System Off Normal Restore	xxxx	EF
Reserved	xxxx	00
System 24 Hour Test	xxxx	99
System 24 Hour Test with Active Event	xxxx	91
Manual Test	xxxx	92
Security alarm Restore	xxxx	E1
Note: Zero event entries prevent the transmission of the report to the Central Station.		

Table 5.1 4+2 Standard Data Reporting Format

5.2 Ademco Contact ID

Ademco Contact ID reporting consists of the following format:

SSSS 18 QXYZ GG CCC

- SSSS = 4-digit Customer Account Code.
- 18 = Identifies transmission as Ademco contact ID to the receiver at the Central Station.
- Q = Event Qualifier
  - 1 = New Event

- 3 = New Restore
- XYZ = Event code. Refer to Table 5.2 for event code definitions.
- GG = Group number. Zeroes, or the value defined in VeriFire Tools programming. (Refer to page 24.)
- CCC = Device or Zone number.
  - If the report concerns a specific point or zone, this field contains the UDACT-2 address of the device or zone. (See the description of the "Point Address at Central Station" field on page 27).
  - If the report is general (i.e., not a report concerning a specific point or zone) this field will display zeroes, or the value defined in VeriFire Tools programming. (Refer to page 24.)

NOTE: For general reports (alarm, trouble and supervisory), the GG and CCC fields are transmitted as 00 and 000 unless values are entered in the VeriFire Tools "Group" and "General Points Device Number" fields. (Refer to page 24.)

Data Description	Event Code
General Alarm	110*
Zone/point Alarm	110*
General Supervisory	200
Zone/point Supervisory	200
General Fault	300
AC Fault	301
Zone/point Fault	380
Low Battery	302
Telco Primary Line Fault	351
Telco Secondary Line Fault	352
NAC Fault	321
Communication Trouble Primary #	354
Communication Trouble Secondary #	354
485 Communication Trouble	300
System Off Normal	308
Reserved	000
System 24 Hour Test	602
System 24 Hour Test with Active Event	608
Manual Test	601
Security Alarm	130
Future Use	310
Future Use	394
Future Use	393
Zone/point defined as fire alarm	110
Disable zone/point report	000
Zone/point defined as supervisory	200
Zone/point defined as pull station	115
Zone/point defined as heat detector	114
Zone/point defined as water flow	113
Zone/point defined as duct detector	116
Zone/point defined as pre-alarm	118
Zone/point defined as smoke	111
Zone/point defined as burglary	130
Zone/point defined as 24 hour non-burglary	150
Zone/point defined as high temperature	158
Zone/point defined as low temperature	159
Zone/point defined as low water pressure	201
Zone/point defined as low water level	204
Zone/point defined as pump failure	206
Zone/point defined as photo-co detector	162

* Factory default, reprogrammable.
Note: Zero event entries prevent the transmission of the report to the Central Station.

Table 5.2 Ademco Contact ID Reporting Format

A typical printout of alarm and trouble reports in the Ademco Contact ID Reporting Structure follows:

Time	Date	Rcvr/ Line ID	SSSS	QXYX	GG	CCCC	Description
11:28	10/14	11	2456	E110	00	C000	General Alarm
11:28	10/14	11	2456	E111	00	C046	Alarm SD46
11:28	10/14	11	2456	E300	00	C000	General Trouble
11:28	10/14	11	2456	E380	00	C046	Trouble SD46
11:28	10/14	11	2456	R110	00	C000	General Alarm Restore
11:28	10/14	11	2456	R111	00	C046	Alarm SD46 Restore
11:28	10/14	11	2456	R300	00	C000	General Trouble Restore
11:28	10/14	11	2456	R380	00	C046	Trouble SD46 Restore

NOTE:
18, which is used in the reporting structure to identify the transmission as Contact ID, is not printed out in the alarm and trouble report.

In the sample report, SD46 refers to smoke detector at address 46 or in zone 46.

Q, which is the Event Qualifier for the reporting structure, is printed out in the report as an E for New Event or R for New Restore.

CCCC, the first C is not transmitted by the UDACT-2 but is printed by the Central Station Receiver printer output.

5.3 SIA

The SIA reporting format is as follows:

      TT AAAA

- TT = Event code.
- AAAA = Zone or Device address.

Code Description	Event Code	Code Description	Event Code
General alarm code	FA	System 24 hour test w/ active event	RY
Zone/point alarm code	FA	Manual test	RX
General supervisory	FS	Security alarm restore	BH
Zone/point supervisory	FS	Zone/point defined as fire alarm	FA
General fault	FT	Disable zone/point report	00
AC fault	AT	Zone/point defined as supervisory	FS
Zone/point fault	FT	Zone/point defined as pull station	FA
Low battery fault	YT	Zone/point defined as heat detector	FA
Telco primary line fault	LT	Zone/point defined as water flow	SA
Telco secondary line fault	LT	Zone/point defined as duct detector	FA
NAC fault	YA	Zone/point defined as pre-alarm	FA
Comm. trouble primary #	YC	Zone/point defined as smoke	FA
Comm. trouble secondary #	YC	Zone/point defined as burglary	BA
485 comm. trouble	YC	Zone/point defined as non-burglary	UA
System off normal	FT	Zone/point defined as high temperature	KA
Reserved	00	Zone/point defined as low temperature	ZA
Reserved	00	Zone/point defined as water pressure	SS
Reserved	00	Zone/point defined as water level	SS
Reserved	00	Zone/point defined as pump failure	SS
Security alarm	BA	Zone/point defined as photo/co detector	GA
General alarm restore	FH	Zone/point defined as fire alarm restore	FH
Zone/point alarm restore	FH	Disable zone/point report restore	00
General supervisory restore	FV	Zone/point defined as supervisory restore	FV
Zone/point supervisory restore	FV	Zone/point defined as pull station restore	FH

Table 5.3 SIA Event Codes (1 of 2)

Code Description	Event Code	Code Description	Event Code
General fault restore	FJ	Zone/point defined as heat detector restore	FH
AC fault restore	AR	Zone/point defined as water flow restore	SH
Zone/point fault restore	FR	Zone/point defined as duct detector restore	FH
Low battery fault restore	YR	Zone/point defined as pre-alarm restore	FH
Telco primary line fault restore	LR	Zone/point defined as smoke restore	FH
Telco secondary line fault restore	LR	Zone/point defined as burglary restore	BH
NAC fault restore	YH	Zone/point defined as 24 hour non--burglary restore	UH
Comm. trouble primary number restore	YK	Zone/point defined as high temperature restore	KH
Comm. trouble secondary number restore	YK	Zone/point defined as low temperature restore	ZH
485 Comm. trouble restore	YK	Zone/point defined as low water pressure restore	SR
System off normal restore	FR	low water level restore	SR
Reserved	00	Zone/point defined as pump failure restore	SR
System 24 hour test	RP	Zone/point defined as photo/co detector	GH
Note: Zero event entries prevent the transmission of the report to the Central Station.			

Table 5.3 SIA Event Codes (2 of 2)

Section 6: Compatible UL Listed Receivers

6.1 UL Listed Receivers

The chart below shows UL listed receivers compatible with the UDACT-2. A check in the protocol column indicates the receiver supports that protocol.

Receiver	4+2 Standard 1800/2300	Ademco Contact ID	SIA
Ademco 685 (1)	✔	✔	
Ademco MX8000 (2)	✔	✔	✔
Silent Knight 9500 (3)	✔	✔	✔
Silent Knight 9800 (4)	✔	✔	✔
FBI CP220FB (5)	✔	✔	✔
Osborne Hoffman 2000E (6)		✔	✔
Radionics 6600 (7)		✔	✔
SurGard MLR2 (8)	✔	✔	
SurGard System III (9)		✔	✔
SurGard MLR-2000 (10)		✔	

Table 6.1 Compatible UL Listed Receivers

NOTE:
(1) With 685-8 Line Card with Rev 4.4d software.
(2) With 124060V206B and 124063 Line Card Rev. B.
(3) With version V2.4 Receiver and 126047 Line Card Rev G.
(4) With 124077V2.00 Receiver and 126047 Line Card Rev M.
(5) With software V3.9.
(6) With V.7301 Receiver S/W.
(7) With 01.01.03 Receiver S/W and Line Card 01.01.03.
(8) With software V1.86.
(9) With software V1.72.
(10) With DSP4016 and V1.6 Line Card.

Appendix A: Panel-Specific Information

A.1 AFP-200

A.1.1 General

The UDACT-2 is capable of reporting a maximum of 99 zones when used with the AFP-200.For the UDACT-2 to correctly report a zone to the Central Station, both the panel and the UDACT-2 must have each zone programmed as the same function type (refer to "Zone and Point Assignments" on page 26). If a UDACT-2 point does not match the panel point in function, the point will default to fire alarm and a fire alarm signal will be transmitted to the Central Station.

For more information on the AFP-200 see the AFP-200 Instruction Manual.

A.1.2 Mounting

Since the AFP-200 does not accommodate the UDACT-2 in the control panel enclosure, the UDACT-2 must be mounted remotely using an ABS-8RB, UBS-1B, or UBS-1R. The unit must be placed within the same room and within 20 feet (6.1 meters) of the panel. Wiring must be enclosed in conduit. Refer to "Remote Installation" on page 17 for installation instructions.

A.1.3 Wiring

⚠️ **CAUTION:**
REMOVE ALL POWER FROM THE CONTROL PANEL BY DISCONNECTING AC AND BATTERIES BEFORE MAKING ANY CONNECTIONS TO PREVENT PERSONAL AND/OR CIRCUIT DAMAGE.

Connections

Refer to Figure A.1.

Connect the communication line between the EIA-485 terminal block TB5 on the AFP-200 and TB2 terminals +EIA-485 and -EIA-485 on the UDACT-2, being certain to observe polarity.

If the UDACT-2 is the only or last device connected to the EIA-485, set SW1 DIP 1:4 to ON to enable the UDACT-2's 120 ohm terminating resistor.

Connect the Ground Wire (PN 71073, provided) from the UDACT-2 earth terminal on TB2 to a solid building earth ground.

Connect 24VDC filtered, non-resettable power from terminal block TB1 on the AFP-200 to TB1 +24V and Common terminals on the UDACT-2.

Notes

1. Recommended wire is 12 AWG ($3.25mm^2$) to 18 AWG ($0.75mm^2$) twisted pair, shielded cable. Connect only one end of shield: shield may be connected to a Common Terminal at TB2 on the UDACT-2 as shown in Figure A.1.

   📄 **NOTE:** The shield end that is not connected should be insulated to prevent accidental grounding. Do not connect both ends of shield under any circumstance since a ground fault may result.

2. Conduit is required for external wire runs. Consult local building codes.
3. Refer to "Specifications" on page 8 for power requirements.

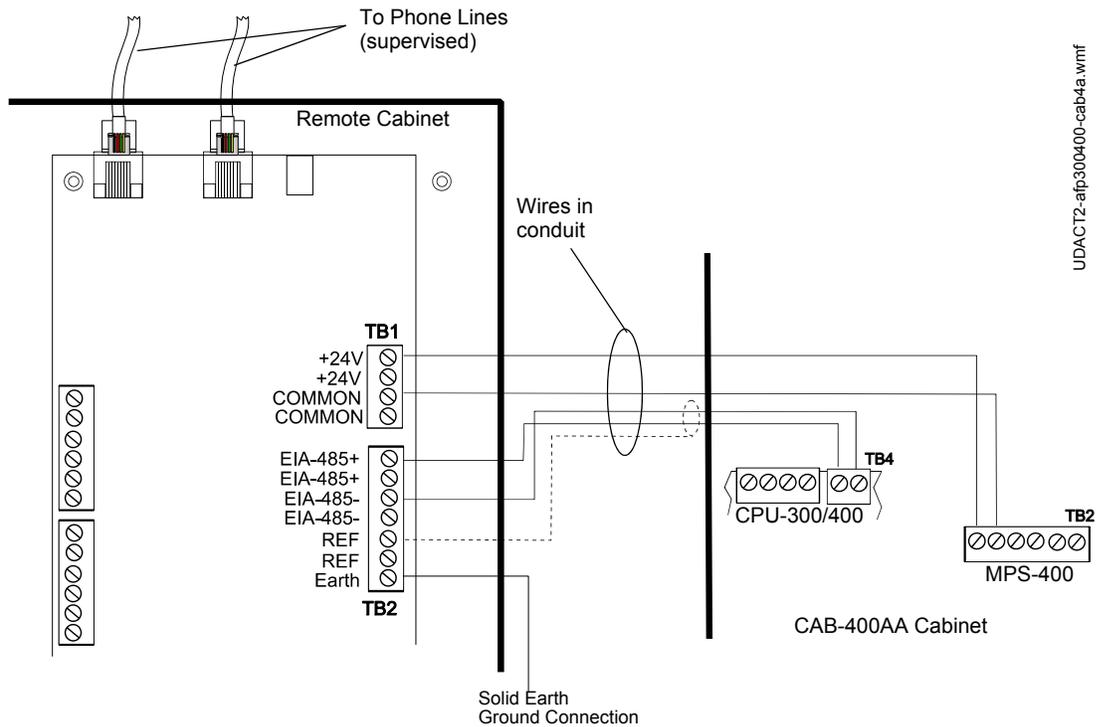Below is a remote installation of a UDACT-2 with an AFP-200:
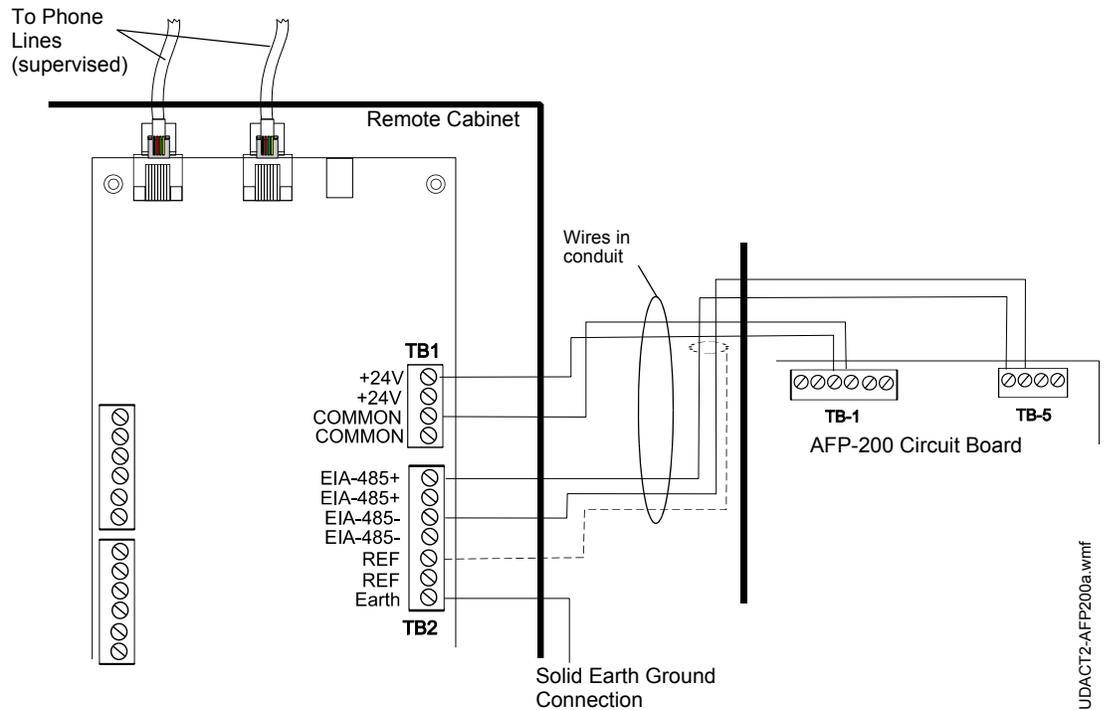
Figure A.1 UDACT-2 and AFP-200

A.2 AFP-300/AFP-400

A.2.1 General

The UDACT-2 is capable of reporting a maximum of 99 zones or 256 points when used with the AFP-300, and 99 zones or 448 points when used with the AFP-400. For the UDACT-2 to correctly report a point to the Central Station, both the panel and the UDACT-2 must have each point programmed as the same function type (refer to "Zone and Point Assignments" on page 26). If a UDACT-2 point does not match the panel point in function, the point will default to fire alarm and a fire alarm signal will be transmitted to the Central Station.

A.2.2 Mounting

If the AFP-300 or AFP-400 is contained in a CAB-400AA cabinet, then the UDACT-2 must be mounted remotely in an ABS-8RB, UBS-1B, or UBS-1R enclosure. The unit must be placed within the same room and within 20 feet (6.1 meters) of the panel. Wiring must be enclosed in conduit.

If the AFP-300 or AFP-400 is contained in a CAB-3/4 Series cabinet, then the UDACT-2 may be mounted to another chassis within that cabinet.

A.2.3 Wiring

⚠ **CAUTION:**
REMOVE ALL POWER FROM THE CONTROL PANEL BY DISCONNECTING AC AND BATTERIES BEFORE MAKING ANY CONNECTIONS TO PREVENT PERSONAL AND/OR CIRCUIT DAMAGE.

Connections

Refer to Figures A.2 and A.3.

Connect the communication line between the EIA-485 terminal block TB4 on the AFP-300/AFP-400 and TB2 terminals EIA-485+ and EIA-485- on the UDACT-2, being certain to observe polarity.

If the UDACT-2 is the only or last device connected to the EIA-485, set SW1 DIP 1:4 to ON to enable the UDACT-2's 120 ohm terminating resistor.

Connect the ground wire (PN 71073, provided) from the UDACT-2 EARTH terminal on TB2 to the CHS-4 Chassis or to a solid building earth ground.

Connect 24VDC filtered, non-resettable power from the MPS-400 (Main Power Supply) to TB1 +24V and Common terminals on the UDACT-2.

Notes

1. Recommended wire is 12 AWG (3.25mm^2) to 18 AWG (0.75mm^2), twisted pair, shielded cable. Connect only one end of shield: a) shield may be connected to cabinet (earth ground) at fire alarm panel, or b) shield may be connected to a Common Terminal at TB2 on the UDACT-2 as shown in Figure A.3.

> **NOTE:** The shield end that is not connected should be insulated to prevent accidental grounding. Do not connect both ends of shield under any circumstance, since a ground fault may result.

2. Conduit is required for external wire runs. Consult local building codes.
3. Refer to "Specifications" on page 8 for power requirements.

Below is a remote installation of a UDACT-2 with an AFP-300/AFP-400:

Figure A.2 UDACT-2 and AFP-300/AFP-400 in CAB-400AA

Below is an internal installation of a UDACT-2 with an AFP-300/AFP-400:
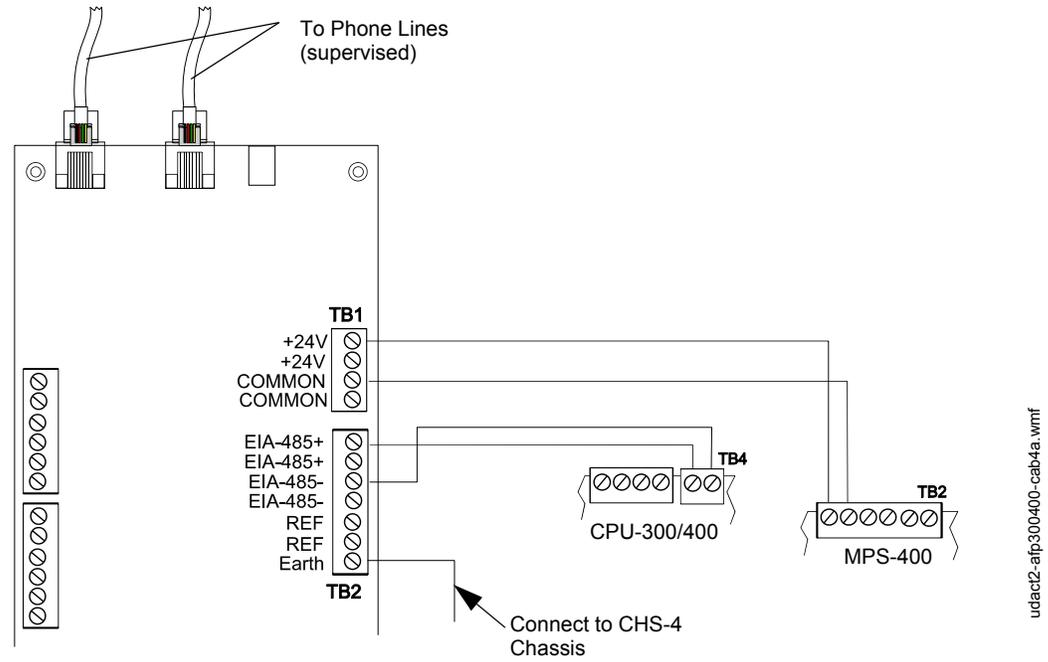
Figure A.3 AFP-300/AFP-400 and UDACT-2 in CAB-3/4

A.3 NFS2-640 (UL 864 10th), NFS-320/SYS (UL 864 10th), NFS-640 (UL 8th)

A.3.1 General

The UDACT-2 is capable of reporting a maximum of 99 zones, or 636 ACS points when used with the NFS2-640 or NFS-640. It has a maximum of 99 zones or 318 ACS points when used with the NFS-320/SYS. For the UDACT-2 to correctly report a point to the Central Station, both the panel and the UDACT-2 must have each point programmed as the same function type (refer to "Zone and Point Assignments" on page 26). If a UDACT-2 point does not match the panel point in function, the point will default to fire alarm and a fire alarm signal will be transmitted to the Central Station.

A.3.2 Mounting

If the UDACT-2 is not mounted within the cabinet that contains the NFS2-640, NFS-640, or NFS-320/SYS, then it must be mounted remotely in an ABS-8RB, UBS-1B, or UBS-1R enclosure. The unit must be placed within the same room and within 20 feet (6.1 meters) of the panel. Wiring must be enclosed in conduit. This is the recommended installation for use with the NFS2-640.

- If the UDACT-2 is mounted within the cabinet that contains an NFS-640, then it may be mounted to another chassis within the CAB-3/4 backbox.
- within the cabinet that contains an NFS-320, then it must be mounted to the NFS-320 chassis and programmed before installing the KDM2-R2 keypad.
- within the cabinet that contains the NFS2-640 or NFS-320SYS, then it may be mounted to the panel chassis or another chassis within the CAB-3/4 backbox. If mounted on the panel chassis, the UDACT-2 must be mounted in the rear position of the fourth column with no other option boards in front.

A.3.3 Wiring

⚠ **CAUTION:**
REMOVE ALL POWER FROM THE CONTROL PANEL BY DISCONNECTING AC AND BATTERIES BEFORE MAKING ANY CONNECTIONS TO PREVENT PERSONAL AND/OR CIRCUIT DAMAGE.

Connections

Refer to Figures A.4 through A.7.

To the NFS2-640 and NFS-320

Connect the communication line between the EIA-485 terminal block TB11 on the CPU2-640 and TB2 terminals EIA-485+ and EIA-485- on the UDACT-2, being certain to observe polarity.

If the UDACT-2 is the only or last device connected to the EIA-485, set SW1 DIP 1:4 to ON to enable the UDACT-2's 120 ohm terminating resistor.

Connect the Ground Wire (PN 71073, provided) from the UDACT-2 EARTH terminal on TB2 to the CHS-4 Chassis or to a solid building earth ground.

Connect 24VDC filtered, non-resettable power from the CPU2-640 TB10 to TB1 24V+ and 24V- terminals on the UDACT-2.

To the NFS-640

Connect the communication line between the EIA-485 terminal block TB13 on the CPU2-640 and TB2 terminals EIA-485+ and EIA-485- on the UDACT-2, being certain to observe polarity.

If the UDACT-2 is the only or last device connected to the EIA-485, set SW1 DIP 1:4 to ON to enable the UDACT-2's 120 ohm terminating resistor.

Connect the Ground Wire (PN 71073, provided) from the UDACT-2 EARTH terminal on TB2 to the CHS-4 Chassis or to a solid building earth ground.

Connect 24VDC filtered, non-resettable power from the CPU2-640 TB7 to TB1 +24V and -24V terminals on the UDACT-2.

Notes

1. Recommended wire is 12 AWG (3.25mm^2) to 18 AWG (0.75mm^2), twisted pair, shielded cable. Connect only one end of shield: a) shield may be connected to cabinet (earth ground) at fire alarm panel, or b) shield may be connected to TB1 Terminal 5 (Shield) at UDACT-2 as shown in Figure A.4.

> **NOTE:** The shield end that is not connected should be insulated to prevent accidental grounding. Do not connect both ends of shield under any circumstance since a ground fault may result.

2. Conduit is required for external wire runs. Consult local building codes.
3. Refer to "Specifications" on page 8 for power requirements.

Below is a remote installation of a UDACT-2 with an NFS2-640/NFS-320/NFS-320SYS:
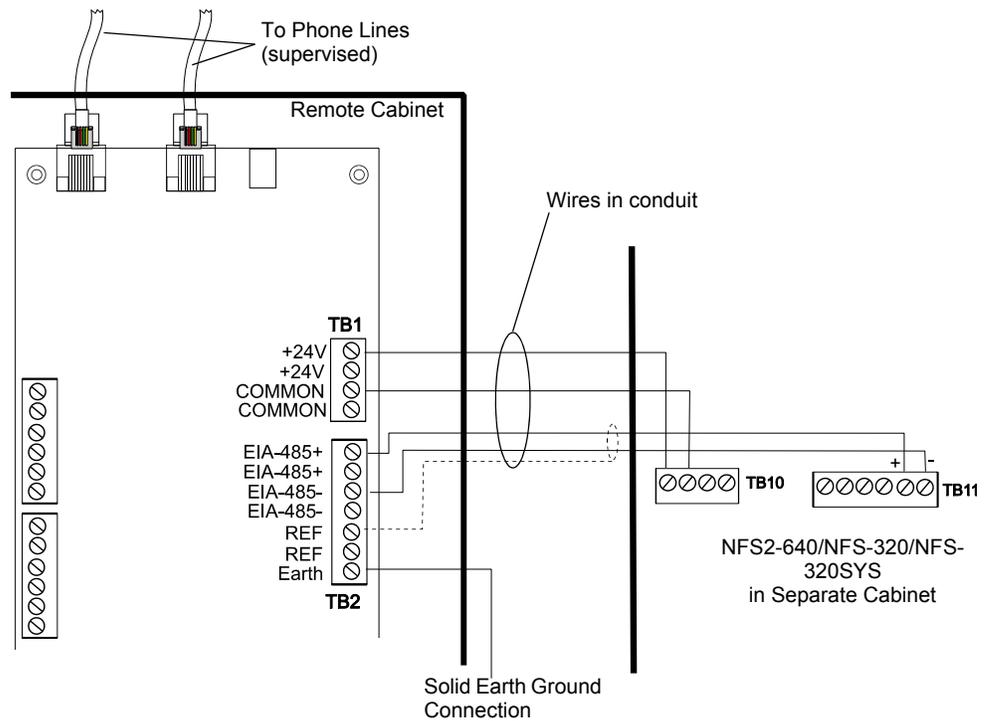
Figure A.4 UDACT-2 and NFS2-640/NFS-320/NFS-320SYS in Separate Cabinets

Below is an internal installation of a UDACT-2 with an NFS2-640/NFS-320/NFS-320SYS:
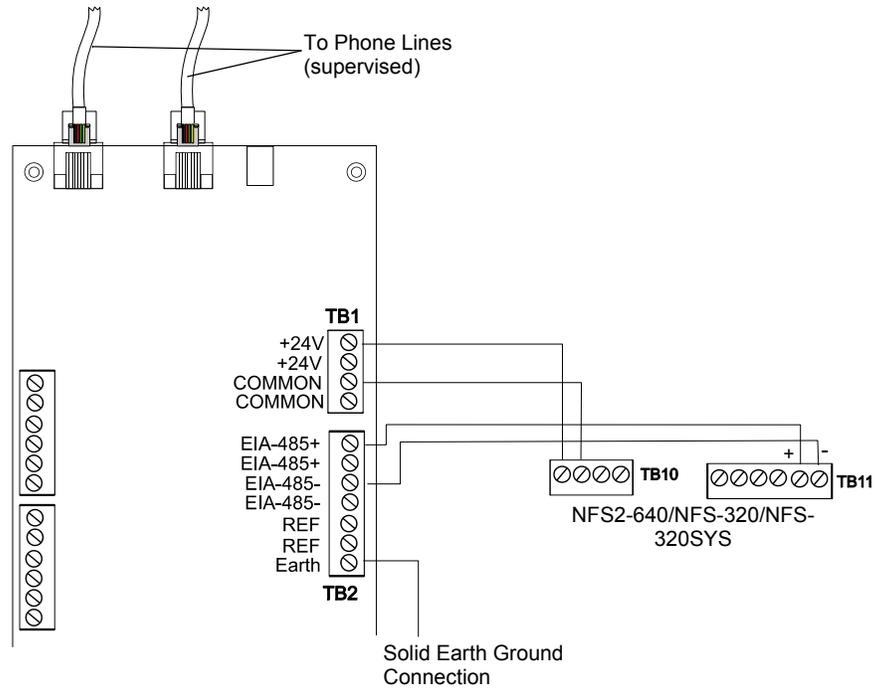
Figure A.5 UDACT-2 and NFS2-640/NFS-320/NFS-320SYS in the Same Cabinet

Below is a remote installation of a UDACT-2 with an NFS-640:
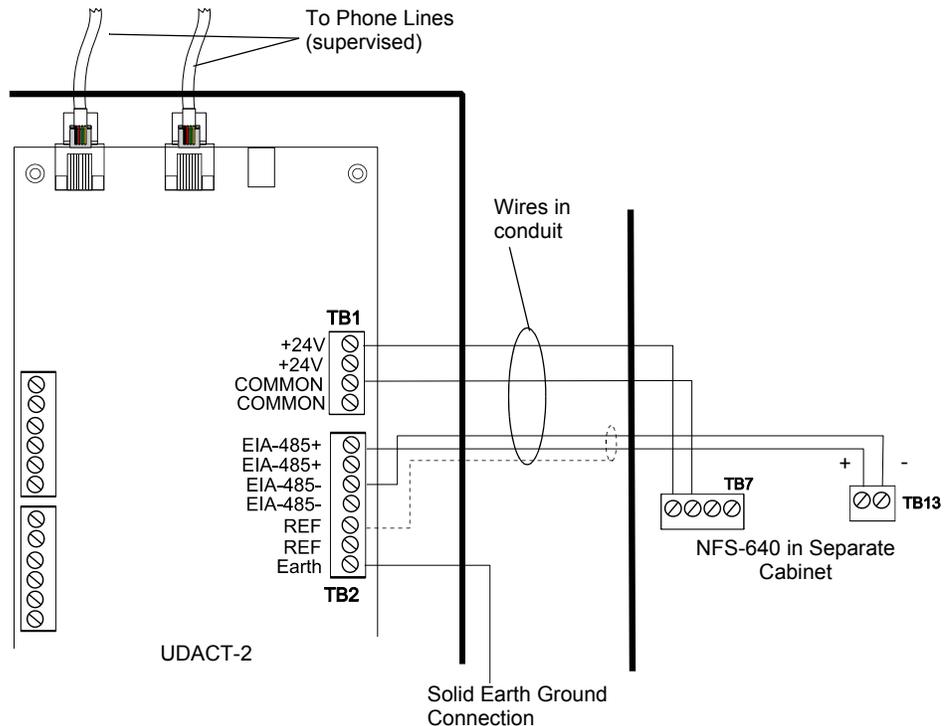
Figure A.6 UDACT-2 and NFS-640 in Separate Cabinets

Below is an internal installation of a UDACT-2 with an NFS-640:
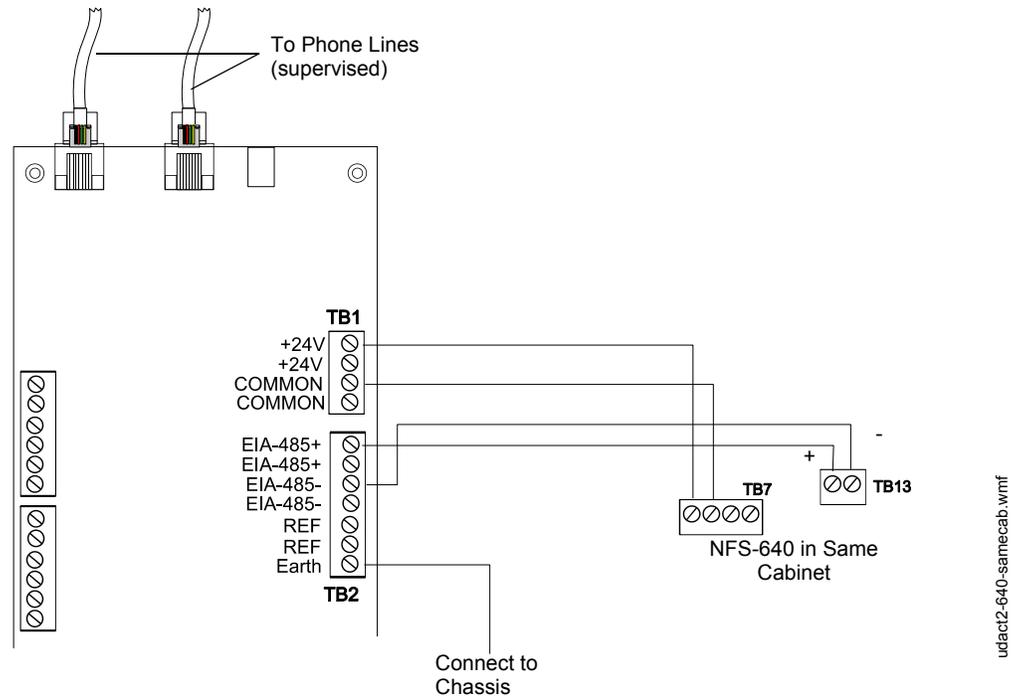
Figure A.7 UDACT-2 and NFS-640 in the Same Cabinet

A.4 NCA-2 (UL 864 10th), NCA (UL 8th)

A.4.1 General

The UDACT-2 is capable of reporting a maximum of 2040 ACS points when used with the NCA or NCA-2. For the UDACT-2 to correctly report a point to the Central Station, both the NCA-2/NCA and the UDACT-2 must have each point programmed as the same function type (refer to "Zone and Point Assignments" on page 26). If a UDACT-2 point does not match the NCA-2/NCA point in function, the point will default to fire alarm and a fire alarm signal will be transmitted to the Central Station.

A.4.2 Mounting

If the UDACT-2 is not mounted in the same cabinet that contains the NCA or NCA-2, it must be mounted remotely in an ABS-8RB, UBS-1B, or UBS-1R. The unit must be placed within the same room and within 20 feet (6.1 meters) of the network annunciator. Wiring must be enclosed in conduit.

If the NCA or NCA-2 is contained in a CAB-4 Series cabinet, then the UDACT-2 may be mounted to a CHS-4/CHS-4MB chassis assembly within that cabinet.

A.4.3 Wiring

⚠️ **CAUTION:**
REMOVE ALL POWER FROM THE CONTROL PANEL BY DISCONNECTING AC AND BATTERIES BEFORE MAKING ANY CONNECTIONS TO PREVENT PERSONAL AND/OR CIRCUIT DAMAGE.

Connections

Refer to Figures A.8 through A.11.

Connect the communication line between the EIA-485 terminal block TB3 on the NCA or TB7 on the NCA-2 and TB2 on the UDACT-2, being certain to observe polarity.

If the UDACT-2 is the only or last device connected to the EIA-485, set SW1 DIP 1:4 to ON to enable the UDACT-2's 120 ohm terminating resistor.

Connect the Ground Wire (PN 71073, provided) from the UDACT-2 earth terminal on TB2 to the chassis or to a solid building earth ground.

Connect 24VDC filtered, non-resettable power from TB1 on the NCA or TB6 on the NCA-2 to TB1 +24V and -24V terminals on the UDACT-2. Power can also be supplied from TB3 AUX on an AMPS-24/E when using an NCA-2.

Notes

1. Recommended wire is 12 AWG (3.25mm^2) to 18 AWG (0.75mm^2), twisted pair, shielded cable. Connect only one end of shield: a) shield may be connected to cabinet (earth ground) at fire alarm panel, or b) shield may be connected to TB1 Terminal 5 (Shield) at UDACT-2 as shown in Figure A.8.

    > **NOTE:** The shield end that is not connected should be insulated to prevent accidental grounding. Do not connect both ends of shield under any circumstance since a ground fault may result.

2. Conduit is required for external wire runs. Consult local building codes.
3. Refer to "Specifications" on page 8 for power requirements.

Below is a remote installation of a UDACT-2 with an NCA:
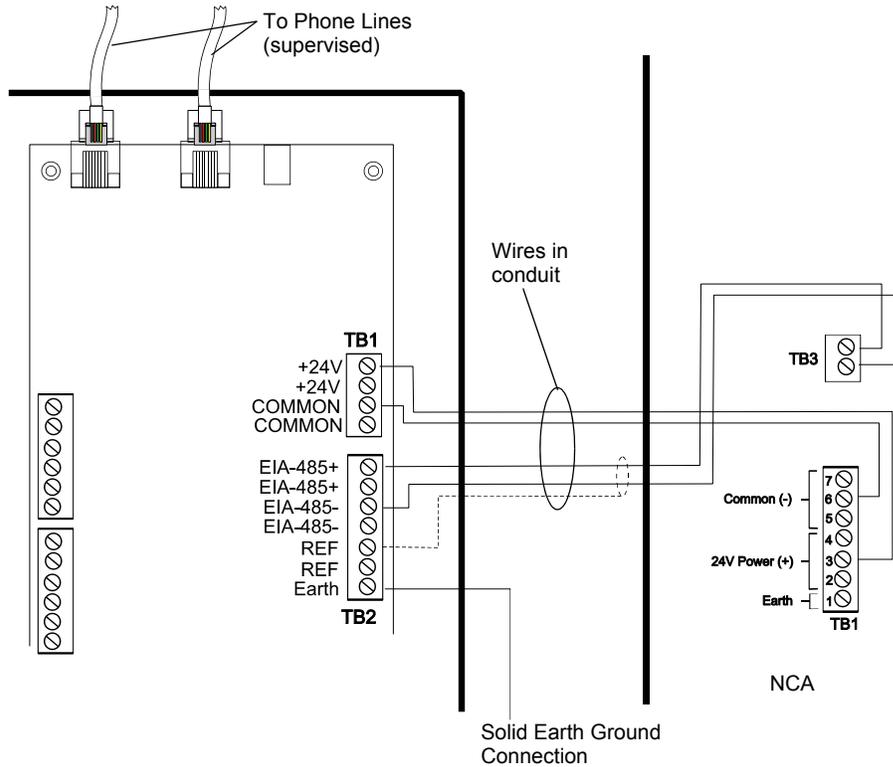
Figure A.8 UDACT-2 and NCA in Separate Cabinets
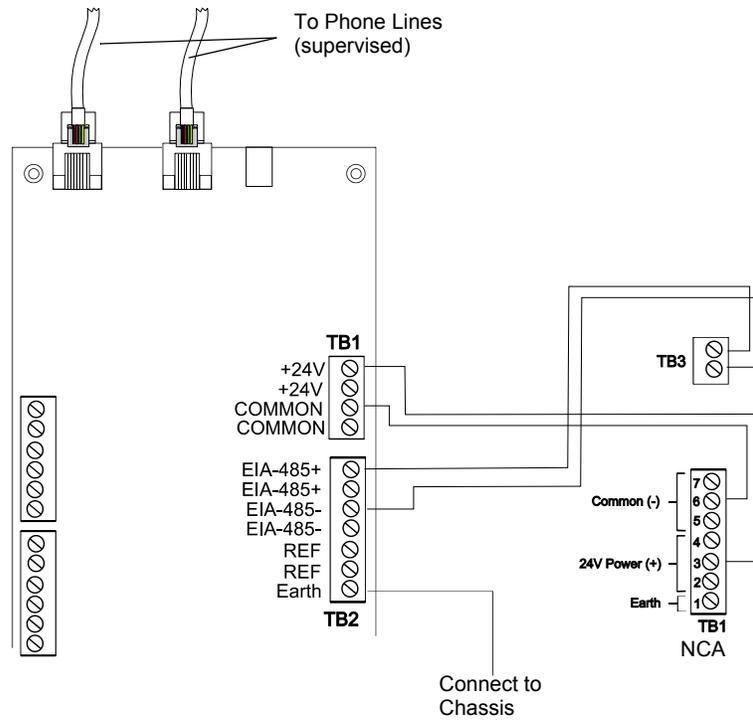
Below is an internal installation of a UDACT-2 with an NCA:

Figure A.9 UDACT-2 and NCA in the Same Cabinet

Below is a remote installationof a UDACT-2 with an NCA-2 using power supplied by the control panel:
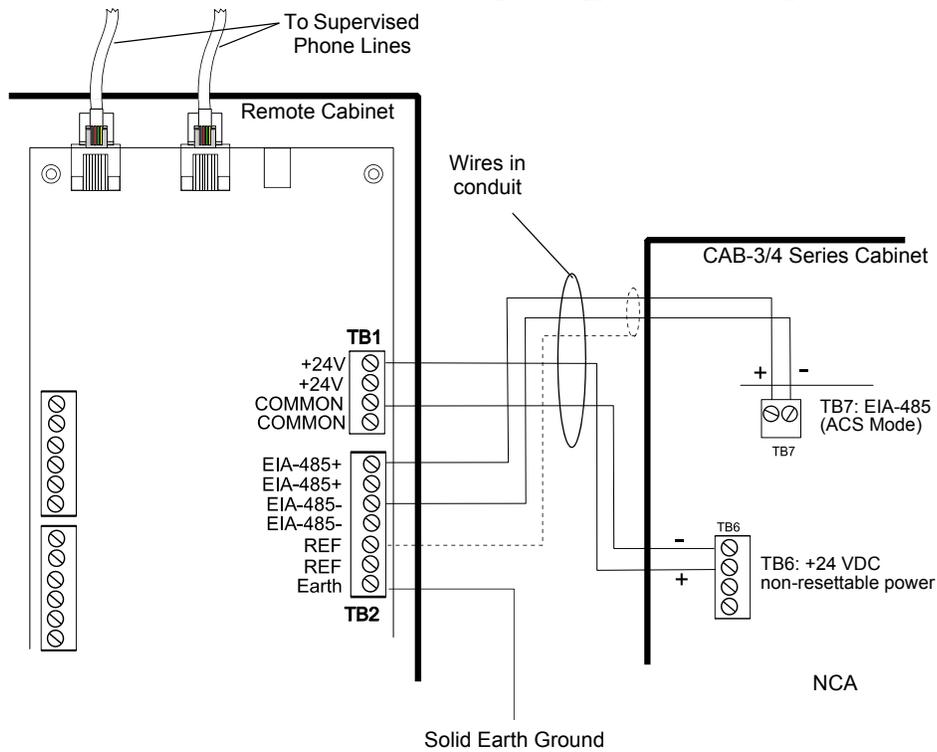
Figure A.10 UDACT-2 and NCA-2 in Separate Cabinets

Below is a remote installation of a UDACT-2 with an NCA-2 using power supplied by an AMPS-24/E:
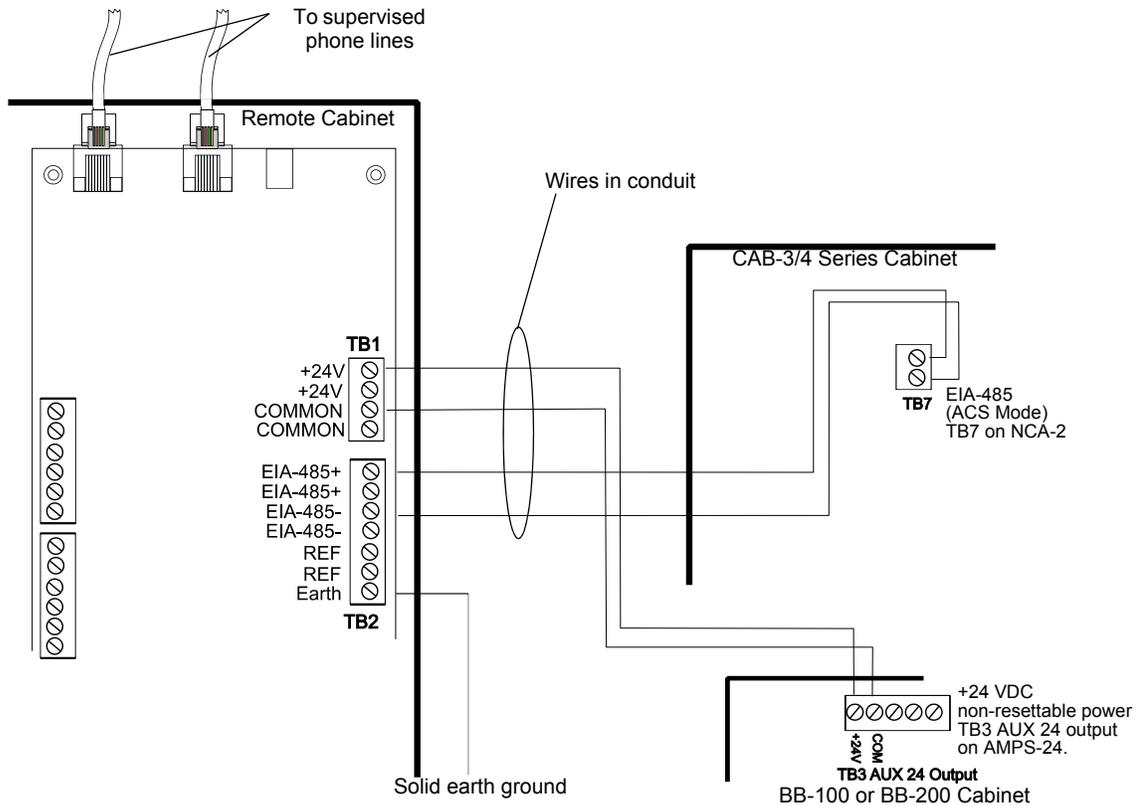
Figure A.11 UDACT-2 and NCA-2 powered by AMPS-24/E

A.5 AM2020/AFP1010 (UL 8th)

A.5.1 General

The UDACT-2 is capable of reporting up to 2,040 ACS points when used with the AM2020/AFP1010. For the UDACT-2 to correctly report a point to the Central Station, both the FACP and the UDACT-2 must have each point programmed as the same function type (refer to "Zone and Point Assignments" on page 26). If a UDACT-2 point does not match the panel point in function, the point will default to fire alarm and a fire alarm signal will be transmitted to the Central Station.

NOTE: The UDACT-2 does not support voice and burglary options when used with the AM2020/AFP1010. Refer to the panel's Installation Manual for additional restrictions and more information.

A.5.2 Mounting

The UDACT-2 may be mounted in the AM2020/AFP1010 control panel enclosure or be mounted remotely using an ABS-8RB, UBS-1B, or UBS-1R enclosure. The unit must be placed within the same room and within 20 feet (6.1 meters) of the panel. Wiring must be enclosed in conduit.

A.5.3 Wiring

⚠ **CAUTION:**
REMOVE ALL POWER FROM THE CONTROL PANEL BY DISCONNECTING AC AND BATTERIES BEFORE MAKING ANY CONNECTIONS TO PREVENT PERSONAL AND/OR CIRCUIT DAMAGE.

Connections

Refer to Figures A.12 and A.13.

Connect the communication line between the EIA-485 terminal block on the AM2020/AFP1010 and EIA-485+ and EIA-485- terminals on TB2 on the UDACT-2, being certain to observe polarity.

If the UDACT-2 is the only or last device connected to the EIA-485, set SW1 DIP 1:4 to ON to enable the UDACT-2's 120 ohm terminating resistor.

Connect the Ground Wire (PN 71073, provided) from the UDACT-2 EARTH terminal on TB2 to the CHS-4 Chassis or to a solid building earth ground.

Connect 24 VDC filtered, regulated power from the MPS-24A or MPS-24B (Main Power Supply) to +24V and -24V terminals on the UDACT-2.

Notes

1. Recommended wire is 12 AWG (3.25mm^2) to 18 AWG (0.75mm^2), twisted pair, shielded cable. Connect only one end of shield: a) shield may be connected to cabinet (earth ground) at fire alarm panel, or b) shield may be connected to TB1 Common at the UDACT-2 as shown in Figure A.12.

NOTE: The shield end that is not connected should be insulated to prevent accidental grounding. Do not connect both ends of shield under any circumstance since a ground fault may result.

2. Conduit is required for external wire runs. Consult local building codes.
3. Refer to "Specifications" on page 8 for power requirements.

Below is a remote installation of a UDACT-2 with an AM2020/AFP1010 using an MPS-24A main power supply:
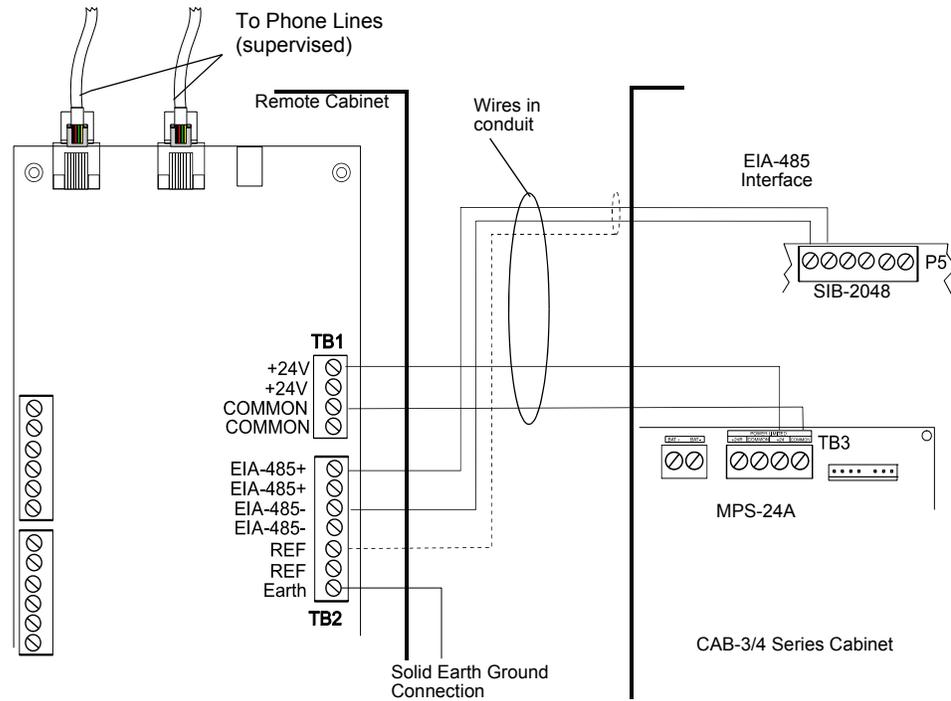
Figure A.12 UDACT-2 and AM2020/AFP1010 **with MPS-24A**

Below is an internal installation of UDACT-2 with an AM2020/AFP1010 using an MPS-24B main power supply:
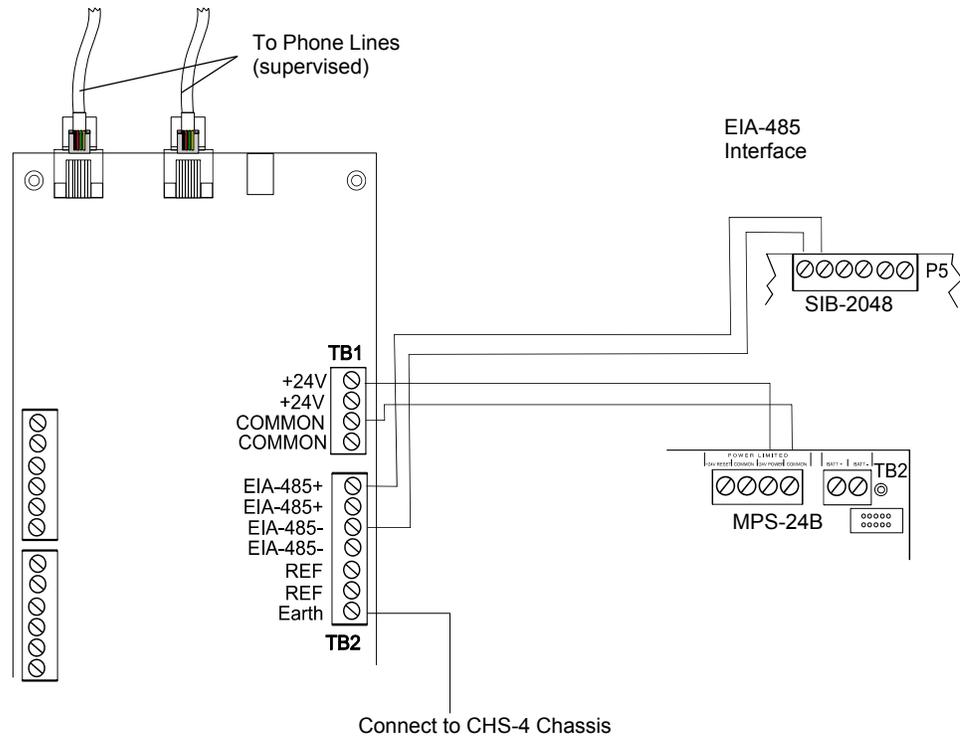
Figure A.13 UDACT-2 and AM2020/AFP1010 with MPS-24B

A.6 NFS2-3030 (UL 864 10th), NFS-3030 (UL 8th)

A.6.1 General

The UDACT-2 is capable of reporting up to 2,040 ACS points when used with the NFS2-3030/NFS-3030. For the UDACT-2 to correctly report a point to the Central Station, both the FACP and the UDACT-2 must have each point programmed as the same function type (refer to "Zone and Point Assignments" on page 26). If UDACT-2 point does not match the panel point in function, the point will default to fire alarm and a fire alarm signal will be transmitted to the Central Station.

A.6.2 Mounting

The UDACT-2 may be mounted in the control panel enclosure or be mounted remotely using an ABS-8RB, UBS-1B, or UBS-1R enclosure. The unit must be placed within the same room and within 20 feet (6.1 meters) of the panel. Wiring must be enclosed in conduit. For mounting instructions see "Remote Installation" on page 17 or "Internal Installation" on page 13.

A.6.3 Wiring

⚠ **CAUTION:**
REMOVE ALL POWER FROM THE CONTROL PANEL BY DISCONNECTING AC AND BATTERIES BEFORE MAKING ANY CONNECTIONS TO PREVENT PERSONAL AND/OR CIRCUIT DAMAGE.

Connections

Refer to Figures A.14 through A.16.

Connect the communication line between the EIA-485 terminal block on the CPU2-3030/CPU-3030 and EIA-485+ and EIA-485- terminals on the UDACT-2, being certain to observe polarity.

If the UDACT-2 is the only or last device connected to the EIA-485, set SW1 DIP 1:4 to ON to enable the UDACT-2's 120 ohm terminating resistor.

Connect the Ground Wire (PN 71073, provided) from the UDACT-2 EARTH terminal on TB1 to the CHS-4 Chassis or to a solid building earth ground.

Connect 24 VDC filtered, regulated power from the CPU2-3030/CPU-3030 or AMPS-24/E (Main Power Supply) to +24V and -24V on TB1 on the UDACT-2.

Notes

1. Recommended wire is 12 AWG (3.25mm^2) to 18 AWG (0.75mm^2), twisted pair, shielded cable. Connect only one end of shield: a) shield may be connected to cabinet (earth ground) at fire alarm panel, or b) shield may be connected to Common on TB2 on the UDACT-2.

NOTE: The shield end that is not connected should be insulated to prevent accidental grounding. Do not connect both ends of shield under any circumstance since a ground fault may result.

2. Conduit is required for external wire runs. Consult local building codes.
3. Refer to "Specifications" on page 8 for power requirements.

Below is a remote installation of a UDACT-2 with an NFS-3030 using power supplied by the control panel:
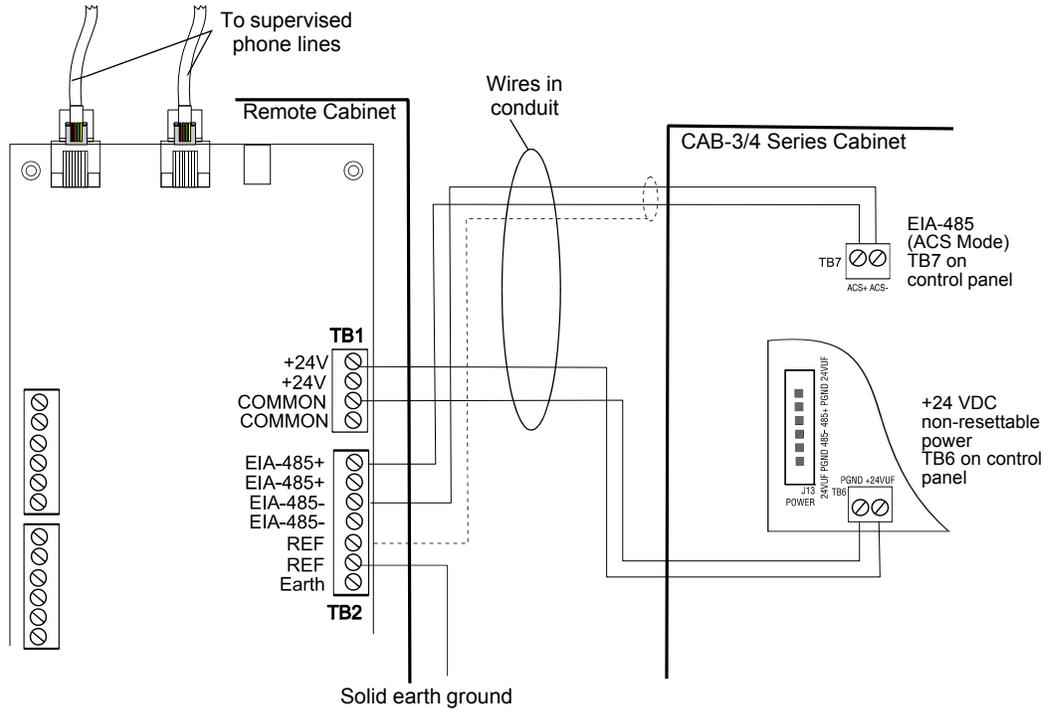
Figure A.14 UDACT-2 and NFS-3030

Below is a remote installation of a UDACT-2 with an NFS2-3030 using power supplied by the control panel:
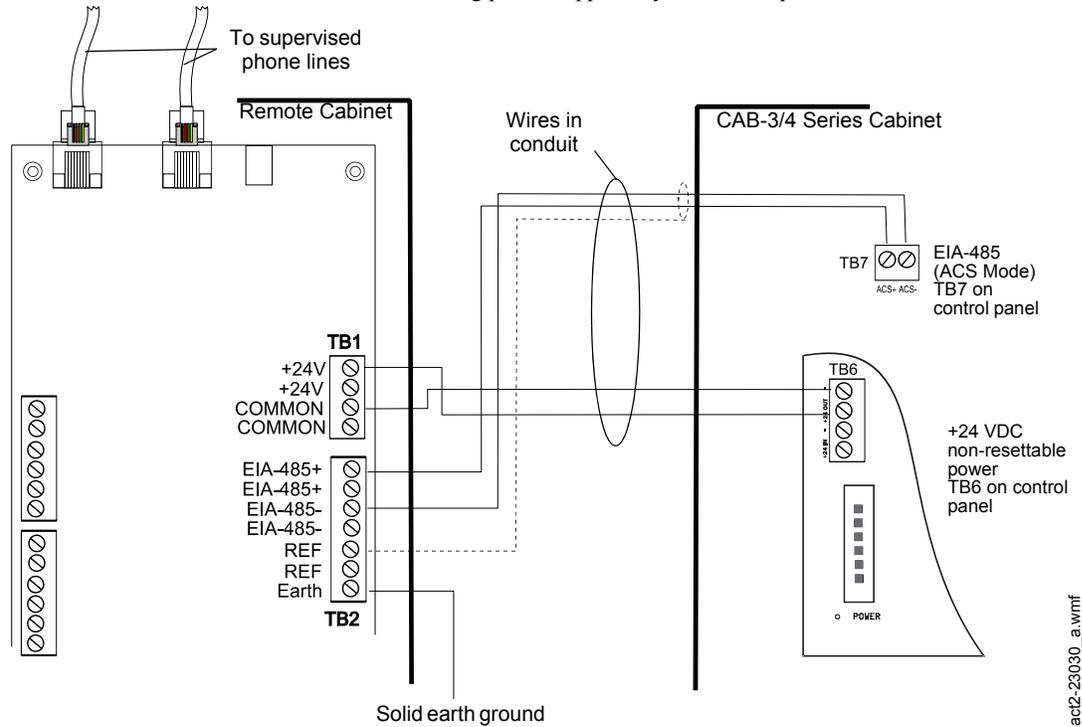
Figure A.15 UDACT-2 and NFS2-3030

Below is a remote installation of a UDACT-2 with an NFS-3030/NFS2-3030 using an AMPS-24/E main power supply:
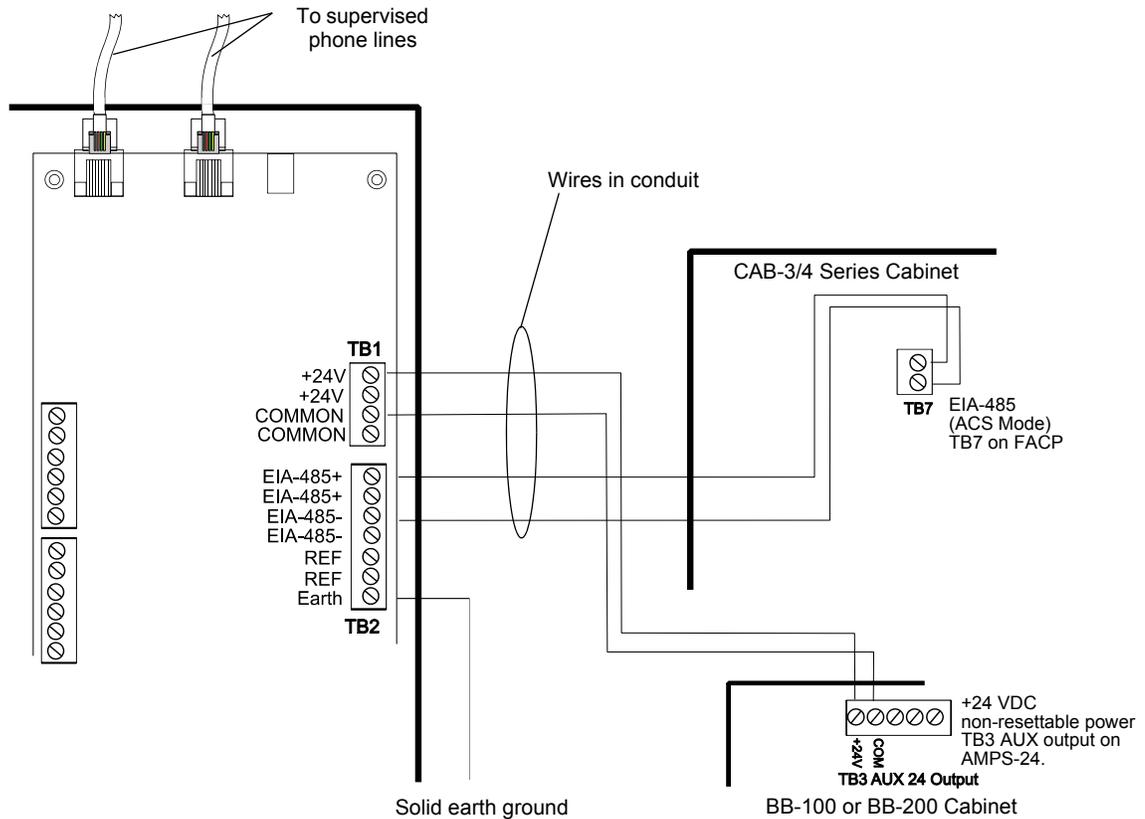
Figure A.16 UDACT-2 and NFS2-3030/NFS-3030 powered by AMPS-24/E

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