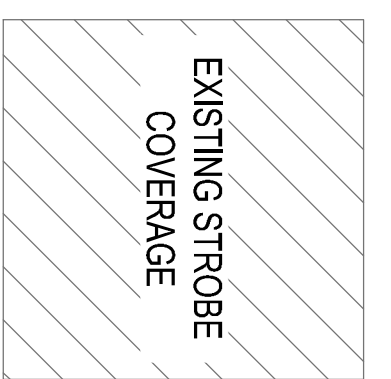


SCHEDULES / LEGENDS

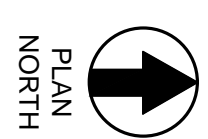
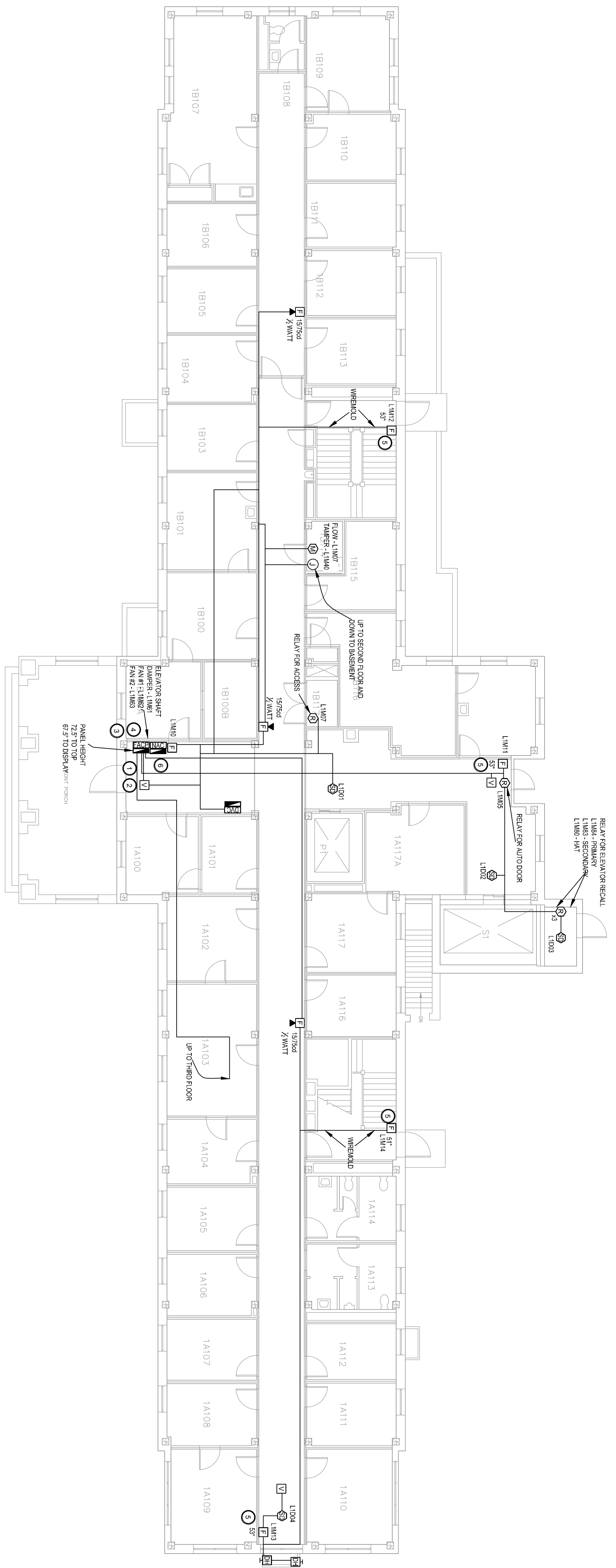
SYMBOL	DESCRIPTION
	FIRE ALARM CONTROL PANEL
	FIRE ALARM ANNUNCIATOR PANEL
	FIRE ALARM REMOTE POWER SUPPLY PANEL
	DIGITAL VOICE COMMAND PANEL
	SMOKE DETECTOR
	HEAT DETECTOR
	DUCT DETECTOR
	PULL STATION
	ALARM VISUAL INDICATING DEVICE - WALL MOUNT
	ALARM VISUAL INDICATING DEVICE - CEILING MOUNT
	VISUAL CHIME INDICATING DEVICE - WALL MOUNT
	VISUAL CHIME INDICATING DEVICE - CEILING MOUNT
	SPEAKER VISUAL INDICATING DEVICE - WALL MOUNT
	SPEAKER VISUAL INDICATING DEVICE - CEILING MOUNT
	SPEAKER ONLY INDICATING DEVICE - WALL MOUNT
	SPEAKER ONLY INDICATING DEVICE - CEILING MOUNT
	MONITOR MODULE (T-TAMPER FOLLOW PRESSES)
	CONTROL MODULE
	RELAY MODULE
	REMOTE INDICATOR WITH TEST STATION (USED FOR DUCT DETECTOR)
	REMOTE INDICATOR FOR DUCT DETECTOR
	DOOR HOLDER
	JUNCTION BOX (HORIZONTAL WIRING)
	JUNCTION BOX (VERTICAL WIRING)
	FIRE ALARM BELL ONLY
	END OF LINE (EOL) RESISTOR
	REPRESENTS WIRE OR CIRCUIT GOING OUT
	REPRESENTS WIRE OR CIRCUIT COMING IN

- GENERAL NOTES**
- REFER TO REFERENCES PAGE FOR EXPLANATION.
 - ALL VISUAL NOTIFICATION DEVICES SHALL HAVE A 5' CIRCULAR BRING IN LESS SHOWN OTHERWISE IN PLANS (IE 3002, 7502, etc.).



DEVICE LEGEND

2 FIRE ALARM PLAN - FIRST FLOOR
F1.0 SCALE: 1/8" = 1'-0"



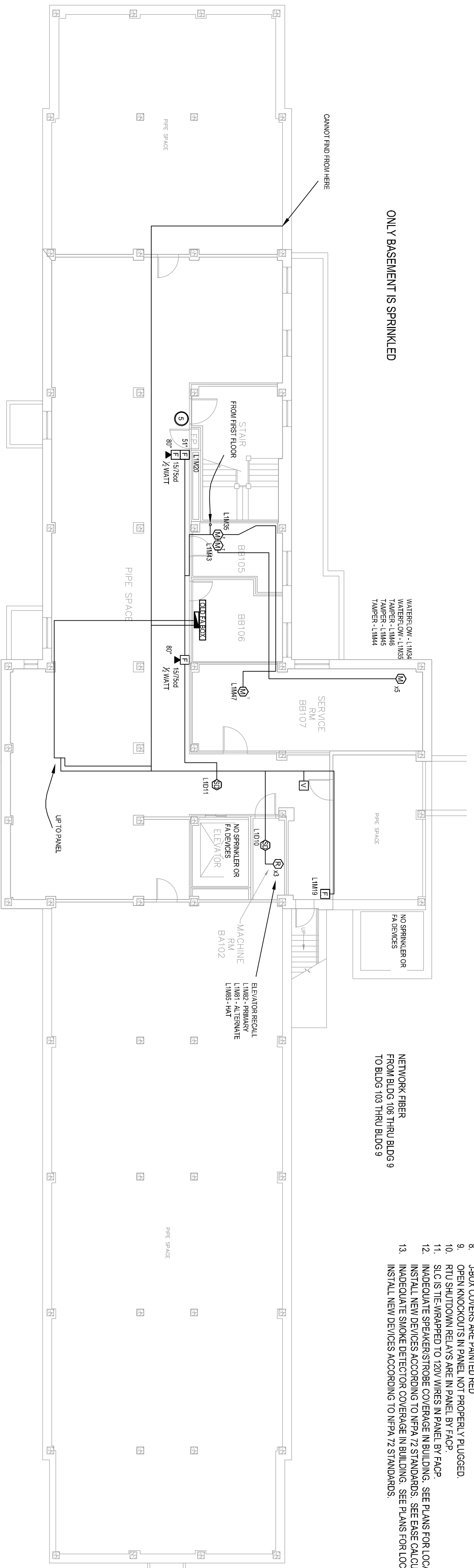
ONLY BASEMENT IS SPRINKLED

WATERFLOW: LHM5
TAMPER: LHM6
TAMPER: LHM4

NETWORK FIBER FROM BLDG 100 THRU BLDG 9 TO BLDG 103 THRU BLDG 9

- GENERAL NOTES**
- HEIGHTS FOR PULL STATIONS ARE TO THE HANDLE
 - HEIGHTS FOR NOTIFICATION ARE TO THE CENTER OF THE STROBE
 - SPEAKER WIRE 102 PPR SHIELDED YELLOW JACKET
 - SIC 102 PPR RED JACKET
 - WALL CHARGE PIPES
 - WALL CHARGE PIPES ARE RELAYS FOR DOOR HOLDERS AND HVAC SHUTDOWN
 - WALL CHARGE PIPES IN CEILING ARE WALL MOUNT DEVICES
 - JABOX COVERS ARE PAINTED RED
 - OPEN KNOCKOUTS IN PANEL, NOT PROPERLY PLUGGED
 - RITU SHUTDOWN RELAYS ARE IN PANEL, BY FACP
 - SIC IS TIE-WAPPED TO 120V WIRES IN PANEL BY FACP
 - INDEQUATE SPEAKER STROBE COVERAGE IN BUILDING. SEE PLANS FOR LOCATION AND INSTALL NEW DEVICES ACCORDING TO NFPA 72 STANDARDS. SEE EASE CALCULATIONS.
 - INDEQUATE SMOKE DETECTOR COVERAGE IN BUILDING. SEE PLANS FOR LOCATION AND INSTALL NEW DEVICES ACCORDING TO NFPA 72 STANDARDS.

1 FIRE ALARM PLAN - BASEMENT
F1.0 SCALE: 1/8" = 1'-0"



DRAWN BY:	ES
CHECKED BY:	ES
PROJECT NUMBER:	12429
DATE:	05-23-16

DORN VA BUILDING 22
6438 GARNER'S FERRY RD
COLUMBIA, SOUTH CAROLINA

EXISTING FIRE ALARM PLAN



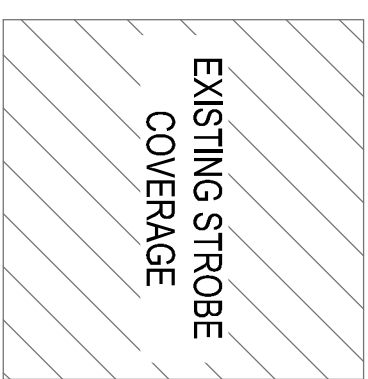
22F1.0
DRAWING NO. X-29-73

SCHEDULES / LEGENDS

SYMBOL	DESCRIPTION
	FIRE ALARM CONTROL PANEL
	FIRE ALARM ANNUNCIATION PANEL
	FIRE ALARM REMOTE POWER SUPPLY PANEL
	DIGITAL VOICE COMMAND PANEL
	SMOKE DETECTOR
	HEAT DETECTOR
	DUCT DETECTOR
	PULL STATION
	ALARM VISUAL INDICATING DEVICE - WALL MOUNT
	ALARM VISUAL INDICATING DEVICE - CEILING MOUNT
	VISUAL ALARM INDICATING DEVICE - WALL MOUNT
	VISUAL ALARM INDICATING DEVICE - CEILING MOUNT
	SPEAKER VISUAL INDICATING DEVICE - WALL MOUNT
	SPEAKER VISUAL INDICATING DEVICE - CEILING MOUNT
	SPEAKER ONLY INDICATING DEVICE - WALL MOUNT
	SPEAKER ONLY INDICATING DEVICE - CEILING MOUNT
	MONITOR MODULE (7-TAMPER FOLLOW PRESSES)
	CONTROL MODULE
	RELAY MODULE
	REMOTE INDICATOR WITH TEST STATION (VENDED FOR DUCT DETECTOR)
	REMOTE INDICATOR FOR DUCT DETECTOR
	DOOR HOLDER
	JUNCTION BOX (HORIZONTAL WIRING)
	JUNCTION BOX (VERTICAL WIRING)
	FIRE ALARM BELL ONLY
	END OF LINE (EOL) RESISTOR
	REPRESENTS WIRE OR CIRCUIT GOING OUT
	REPRESENTS WIRE OR CIRCUIT COMING IN

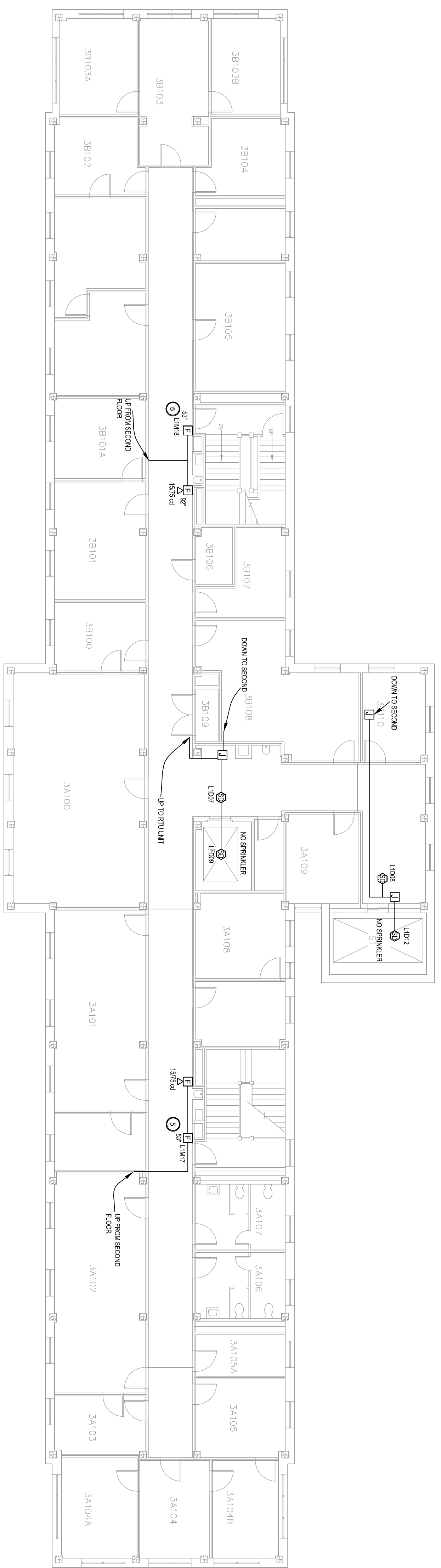
GENERAL NOTES

- REFER TO ORDINANCES PAGE FOR EXPLANATION.
- ALL VISUAL NOTIFICATION DEVICES SHALL HAVE A 5' CIRCULAR AREA UNLESS SHOWN OTHERWISE IN PLANS (IE 3002, 7302, etc.).

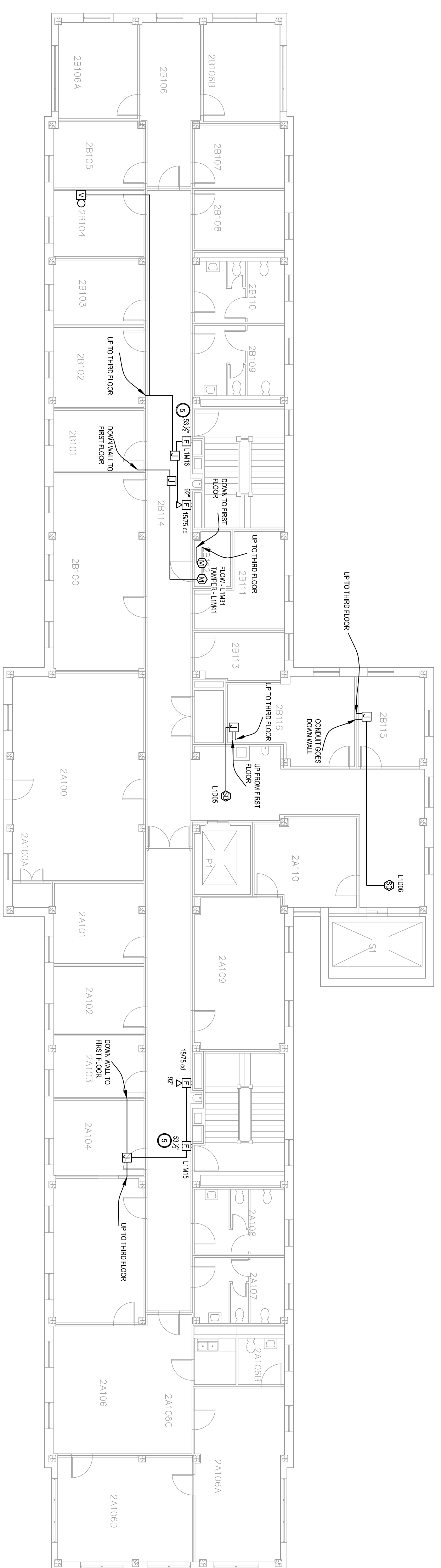


DEVICE LEGEND

SYMBOL	DESCRIPTION
	FIRE ALARM CONTROL PANEL
	FIRE ALARM ANNUNCIATION PANEL
	FIRE ALARM REMOTE POWER SUPPLY PANEL
	DIGITAL VOICE COMMAND PANEL
	SMOKE DETECTOR
	HEAT DETECTOR
	DUCT DETECTOR
	PULL STATION
	ALARM VISUAL INDICATING DEVICE - WALL MOUNT
	ALARM VISUAL INDICATING DEVICE - CEILING MOUNT
	VISUAL ALARM INDICATING DEVICE - WALL MOUNT
	VISUAL ALARM INDICATING DEVICE - CEILING MOUNT
	SPEAKER VISUAL INDICATING DEVICE - WALL MOUNT
	SPEAKER VISUAL INDICATING DEVICE - CEILING MOUNT
	SPEAKER ONLY INDICATING DEVICE - WALL MOUNT
	SPEAKER ONLY INDICATING DEVICE - CEILING MOUNT
	MONITOR MODULE (7-TAMPER FOLLOW PRESSES)
	CONTROL MODULE
	RELAY MODULE
	REMOTE INDICATOR WITH TEST STATION (VENDED FOR DUCT DETECTOR)
	REMOTE INDICATOR FOR DUCT DETECTOR
	DOOR HOLDER
	JUNCTION BOX (HORIZONTAL WIRING)
	JUNCTION BOX (VERTICAL WIRING)
	FIRE ALARM BELL ONLY
	END OF LINE (EOL) RESISTOR
	REPRESENTS WIRE OR CIRCUIT GOING OUT
	REPRESENTS WIRE OR CIRCUIT COMING IN



2 FIRE ALARM PLAN - THIRD FLOOR
F1.1 SCALE: 1/8" = 1'-0"



1 FIRE ALARM PLAN - SECOND FLOOR
F1.1 SCALE: 1/8" = 1'-0"

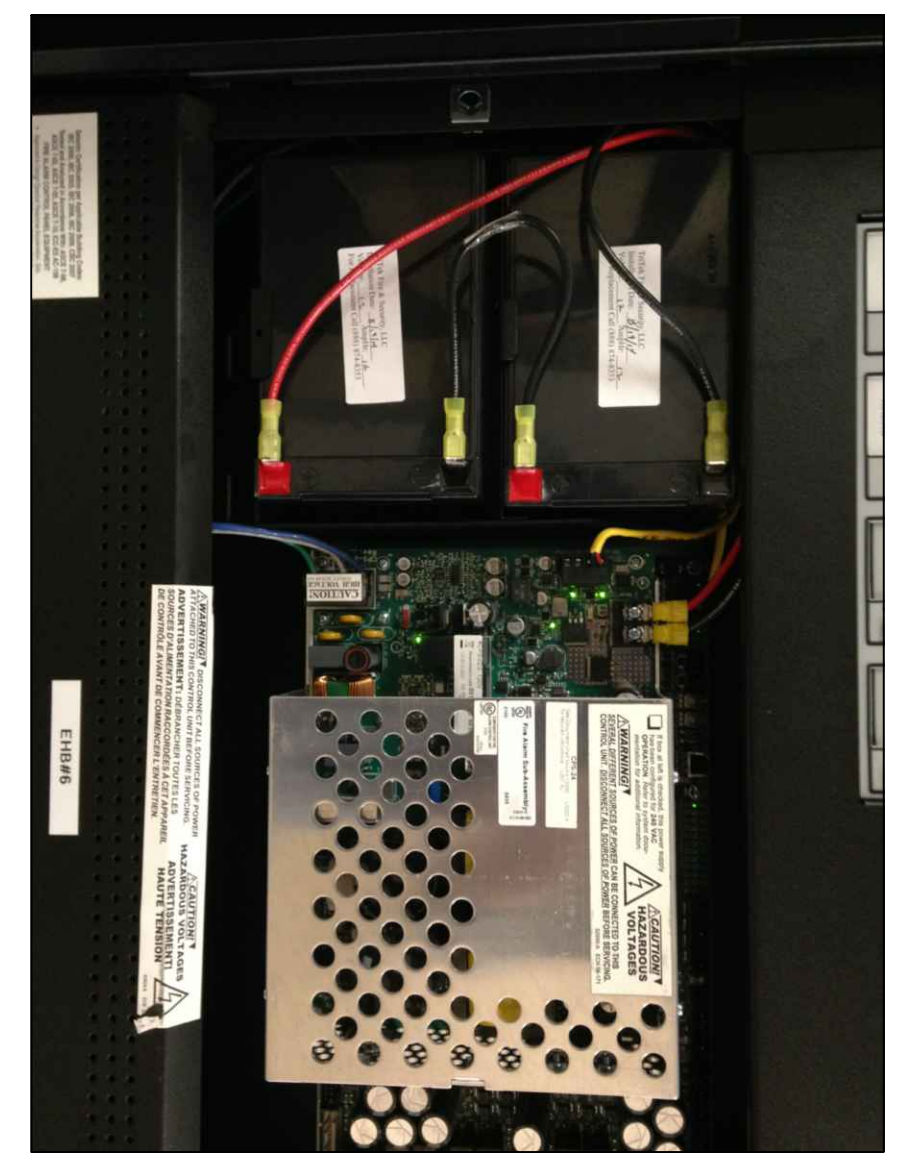
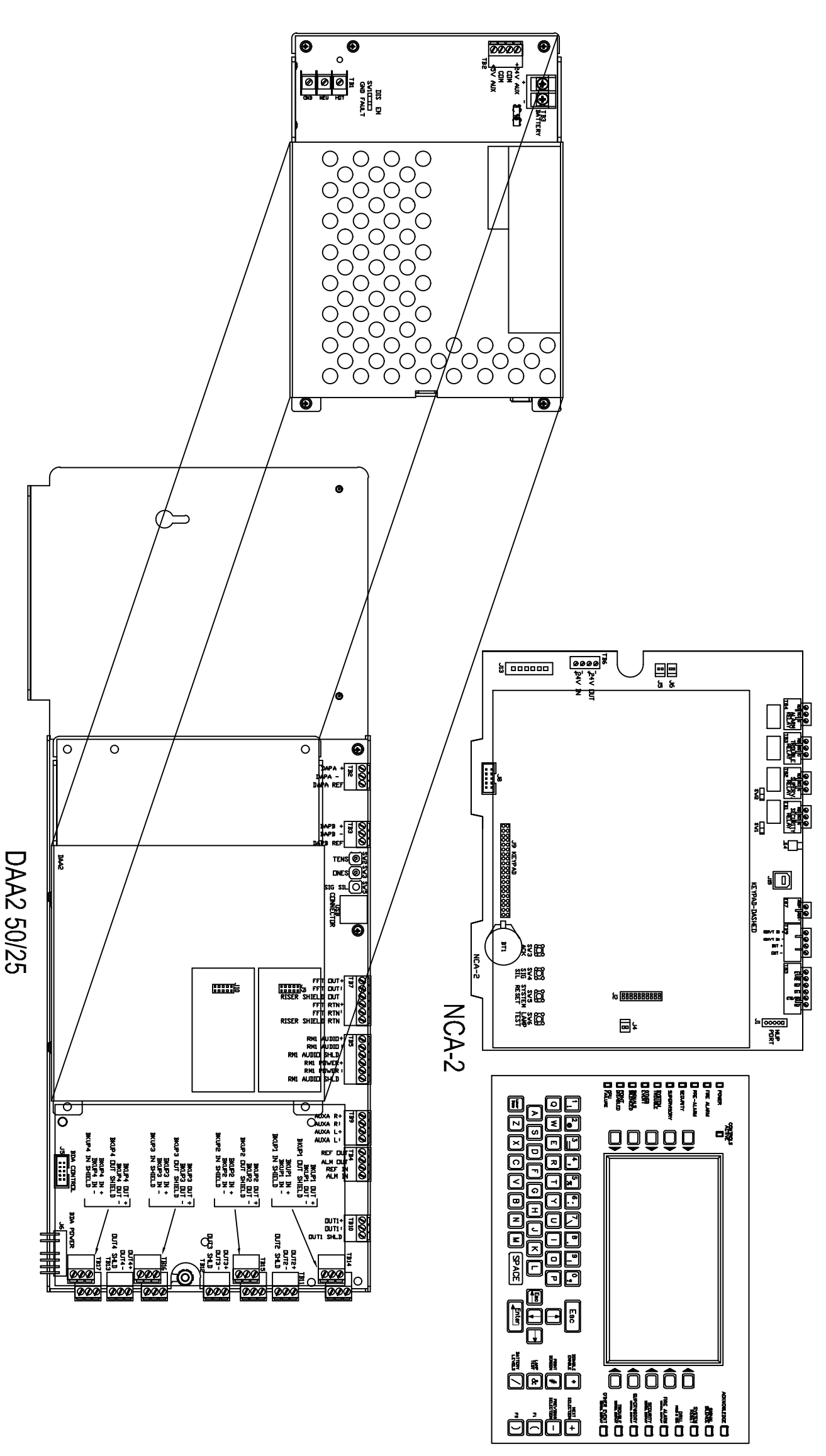
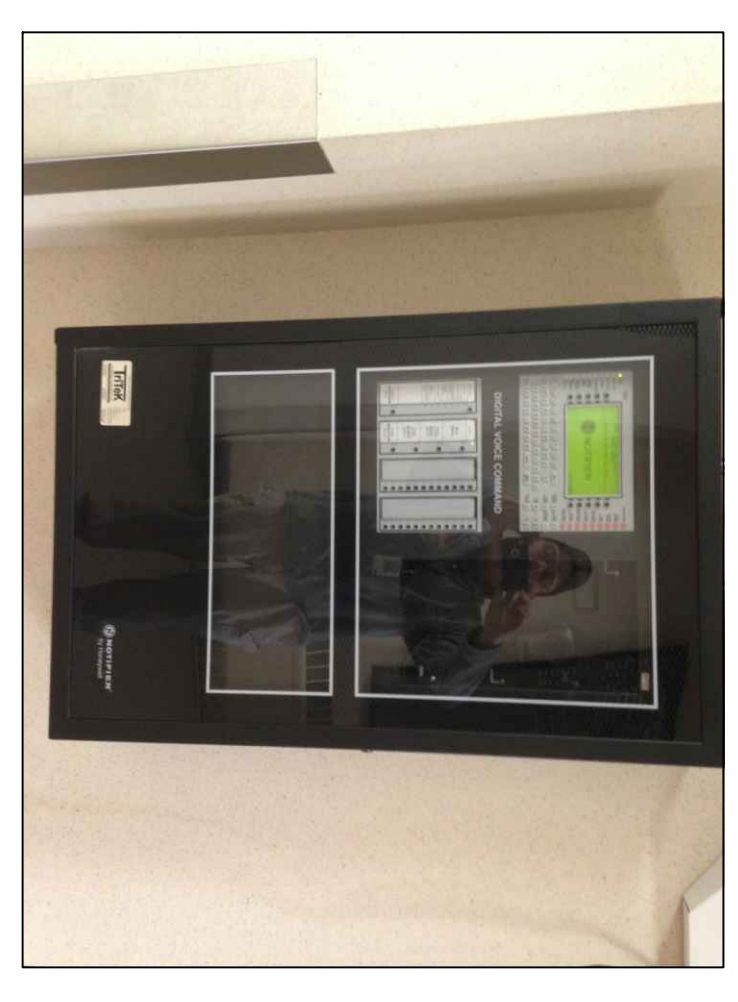
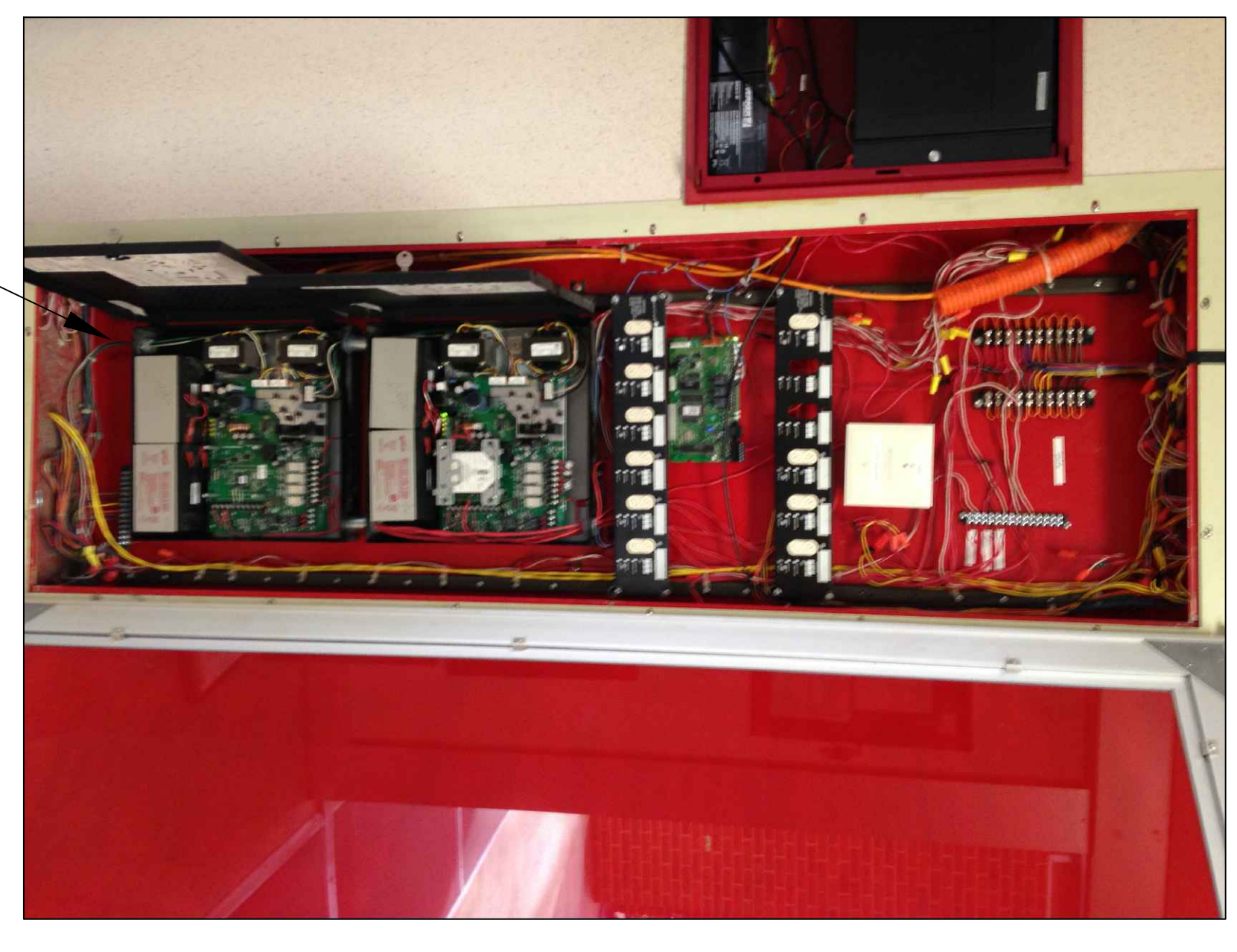
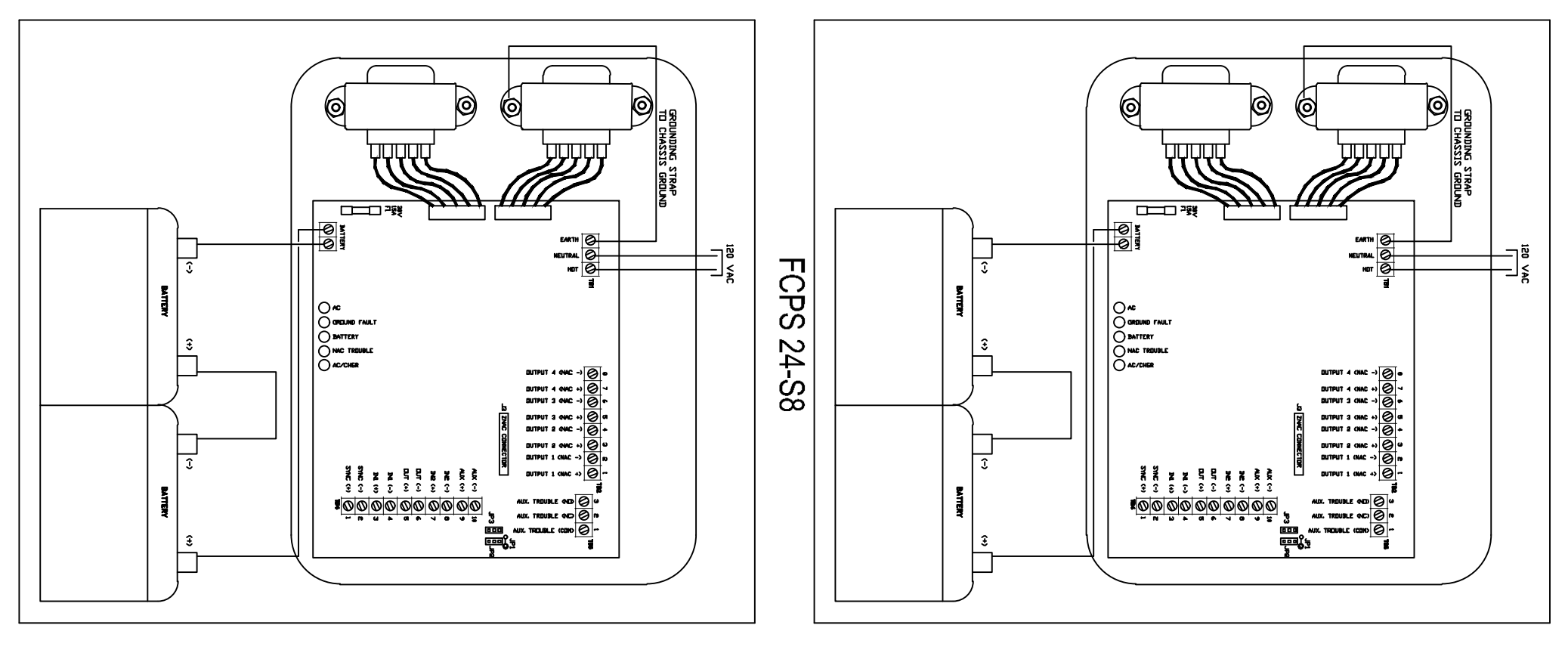
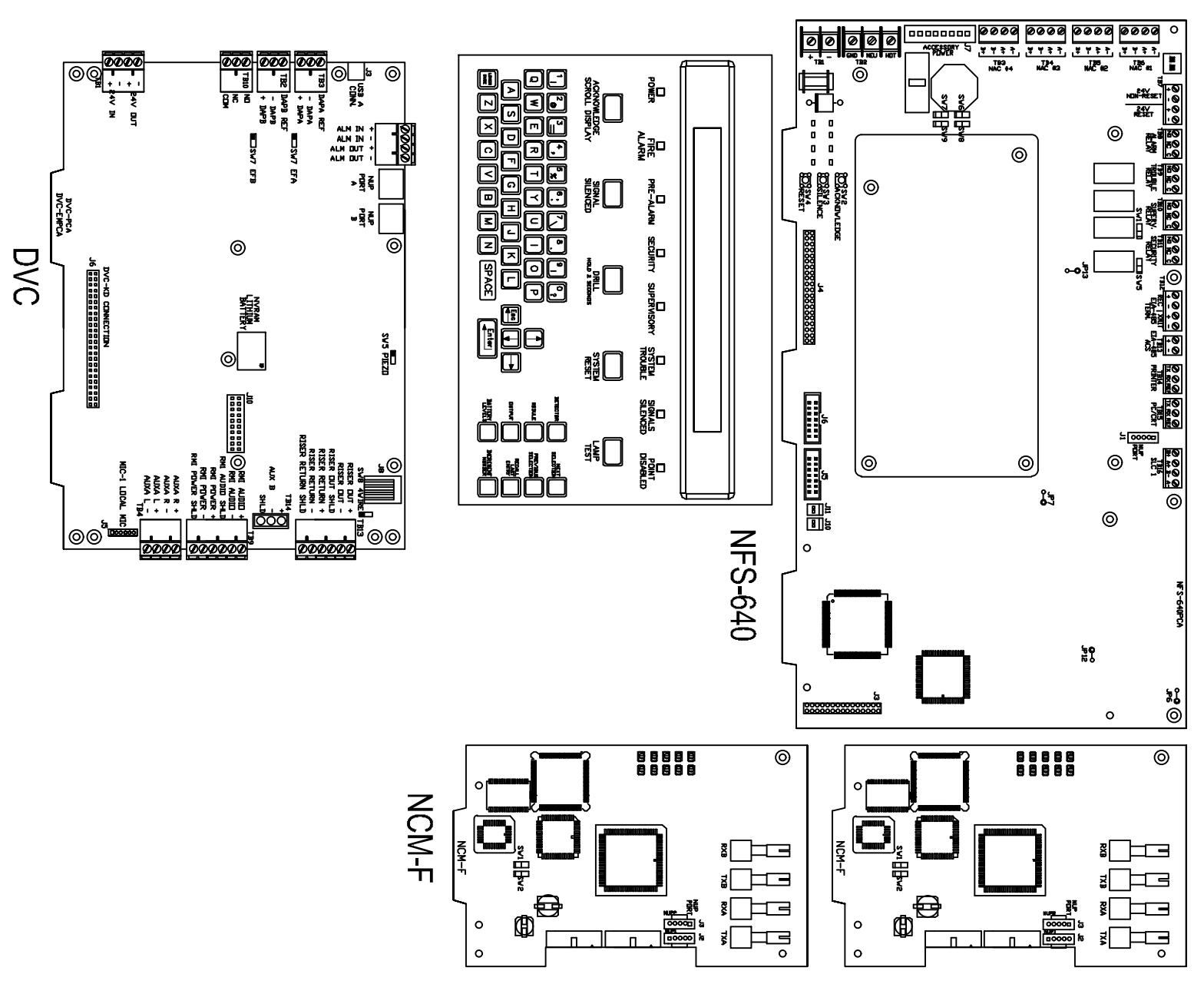
KEYPLAN

DORN VA BUILDING 22
6439 GARNER'S FERRY RD
COLUMBIA, SOUTH CAROLINA

EXISTING FIRE ALARM PLAN



DRAWN BY:	ES
CHECKED BY:	ES
PROJECT NUMBER:	12429
DATE:	05-23-16
22F1.1	



EQUIPMENT NFS-640 NCM-F DVC NCA-2 DAA2 50/25 FSPS 24S8 (2) 12V 72AH BATTERIES(2) 12V 18AH BATTERIES(2)

CAB-4 Series Cabinets

ONYX® Series Backboxes with Locking Doors



Peripheral Devices

General

All cabinets for NOTIFIER fire alarm control panels are fabricated from 16-gauge steel. The cabinet assembly consists of two basic parts: a backbox and a locking door. Cabinets are available in either black or red, with or without windows. The window model provides a tasteful combination to accent the decor of the finest lobby setting.

- The **key-locked door** is provided with a pin-type hinge, two keys and the necessary hardware to mount the door to the backbox.
- The **backbox** has been engineered to provide ease-of-entry for the installer. **Knockouts** are positioned at numerous points to aid the installer in bringing a conduit into the enclosure with a minimum of hardship.
- **Right- or left-hand hinges**, selectable in the field. Door opens 180°.
- Cabinets are arranged in **four standard sizes**, A (one tier) through D (four tiers), plus a **mini cabinet** (AA, one tier without a battery compartment). See *Ordering Information*.
- A **trim ring option** is available for semi-flush mounting.
- **Chassis bridge** available for assembling multiple CHS-4 chassis external to the backbox.
- Certified for seismic applications when used with the appropriate **seismic mounting kit**.

Ordering Information

A complete cabinet assembly consists of: a door, a backbox, an optional battery plate, and an optional semi-flush trim ring. For each cabinet required, order one "DR" door and one "SBB" backbox. The BP2-4 battery plate is required for each cabinet assembly that mounts batteries and/or a power supply in the lower position of the cabinet. The optional trim ring is an attractive "picture frame"-style black metal ring.

MINI "AA" SIZE, ONE TIER

DR-AA4: Door assembly, window, one tier (no battery compartment), BLACK, 9.8 lbs.

DR-AA4R: Door assembly, window, one tier (no battery compartment), RED, 9.8 lbs.

DR-AA4B: Door assembly, solid door, one tier (no battery compartment), BLACK.

DR-AA4BR: Door assembly, solid door, one tier (no battery compartment), RED.

SBB-AA4: Backbox assembly, one tier (no battery compartment), BLACK, 16.65 lbs.

SBB-AA4R: Backbox assembly, one tier (no battery compartment), RED, 16.65 lbs.

TR-AA4: Accessory semi-flush-mount trim ring, one tier (no battery compartment).

NOTE: Black trim rings are used with red or black cabinets.

ONE TIER, "A" SIZE

DR-A4: Door assembly, window, one tier, BLACK, 14.20 lbs.

DR-A4R: Door assembly, window, one tier, RED, 14.20 lbs.

DR-A4B: Door assembly, solid door, one tier, BLACK, 14.30 lbs.



NFS2-3030 and DVC in "C" sized CAB-4 cabinet

DR-A4BR: Door assembly, solid door, one tier, RED, 15 lbs.

SBB-A4: Backbox assembly, one tier, BLACK, 21 lbs.

SBB-A4R: Backbox assembly, one tier, RED, 21 lbs.

TR-A4: Accessory semi-flush-mount trim ring, one tier (opening 24.062" [61.118 cm] W x 20.062" [50.958 cm] H), BLACK, 2.5 lbs.

NOTE: Black trim rings are used with red or black cabinets.

BP2-4: Battery plate. Used to cover battery and power supply when lower position is used in backbox, 3.10 lbs.

TWO TIERS, "B" SIZE

DR-B4: Door assembly, window, two tiers, BLACK, 17.45 lbs.

DR-B4R: Door assembly, window, two tiers, RED, 17.45 lbs.

ADDR-B4: Two-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. BLACK.

ADDR-B4R: Two-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. RED.

DR-B4B: Door assembly, solid door, two tiers, BLACK, 18.80 lbs.

DR-B4BR: Door assembly, solid door, two tiers, RED, 18.80 lbs.

SBB-B4: Backbox assembly, two tiers, BLACK, 26.88 lbs.

SBB-B4R: Backbox assembly, two tiers, RED, 26.88 lbs.

TR-B4: Accessory semi-flush-mount trim ring, two tiers (opening 24.062" [61.118 cm] W x 28.562" [72.548 cm] H), BLACK, 3 lbs.

NOTE: Black trim rings are used with red or black cabinets.

BP2-4: Battery plate. Used to cover battery and power supply when lower position is used in backbox, 3.10 lbs.

THREE TIERS, "C" SIZE

DR-C4: Door assembly, window, three tiers, BLACK, 20.75 lbs.

DR-C4R: Door assembly, window, three tiers, RED, 20.75 lbs.

ADDR-C4: Three-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. BLACK.

ADDR-C4R: Three-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. RED.

DR-C4B: Door assembly, solid door, three tiers, BLACK, 23.45 lbs.

DR-C4BR: Door assembly, solid door, three tiers, RED, 23.45 lbs.

SBB-C4: Backbox assembly, three tiers, BLACK, 32.60 lbs.

SBB-C4R: Backbox assembly, three tiers, RED, 32.60 lbs.

TR-C4: Accessory semi-flush-mount trim ring, three tiers (opening 24.062" [61.118 cm] W x 37.187" [94.455 cm] H), BLACK, 3.50 lbs.

NOTE: Black trim rings are used with red or black cabinets.

BP2-4: Battery plate. Used to cover battery and power supply when lower position is used in backbox, 3.10 lbs.

FOUR TIERS, "D" SIZE

DR-D4: Door assembly, window, four tiers, BLACK, 23.95 lbs.

DR-D4R: Door assembly, window, four tiers, RED, 23.95 lbs.

ADDR-D4: Four-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. BLACK.

ADDR-D4R: Four-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. RED.

DR-D4B: Door assembly, solid door, four tiers, BLACK, 28.40 lbs.

DR-D4BR: Door assembly, solid door, four tiers, RED, 28.40 lbs.

SBB-D4: Backbox assembly, four tiers, BLACK, 40 lbs.

SBB-D4R: Backbox assembly, four tiers, RED, 40 lbs.

TR-D4: Accessory semi-flush-mount trim ring, four tiers (opening 24.062" [61.118 cm] W x 45.812" [116.363 cm] H), BLACK, 3.80 lbs.

NOTE: Black trim rings are used with red or black cabinets.

BP2-4: Battery plate. Used to cover battery and power supply when lower position is used in backbox, 3.10 lbs.

ACCESSORIES

ADP-4B: Annunciator dress panel.

CAB-BM: For use with "B" sized cabinets in Marine applications. See DN-60688 for more information.

CB-1: Chassis bridge. Provides a bridge between CHS Series chassis.

DP-1B: Blank dress panel, covers one CAB-4 tier, BLACK.

SEISKIT-CAB: Seismic mounting kit. Required for seismic-certified applications with NFS2-3030, NFS2-640, and NFS-320SYS. Includes battery bracket for two 26 AH batteries.

VP-2B: Ventilator panel.

WC-2: Wire channel. Provides a pair of wire trays to neatly route wiring between CHS chassis.

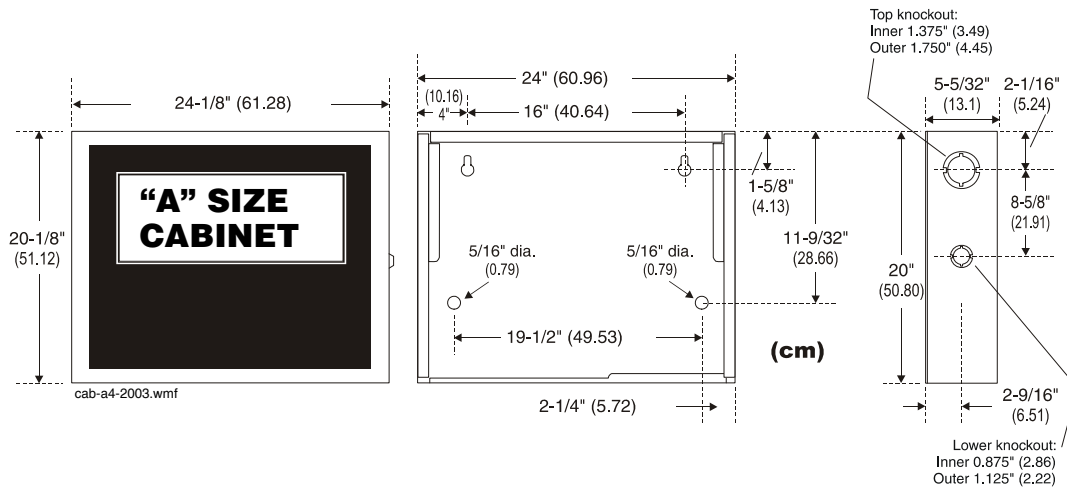
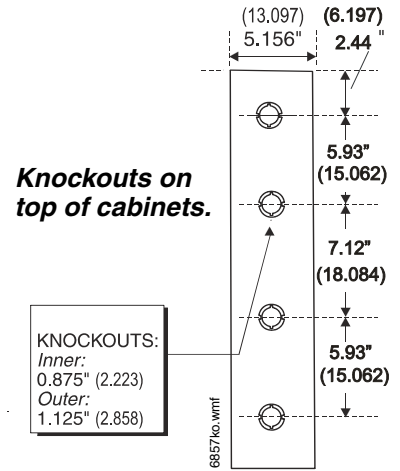
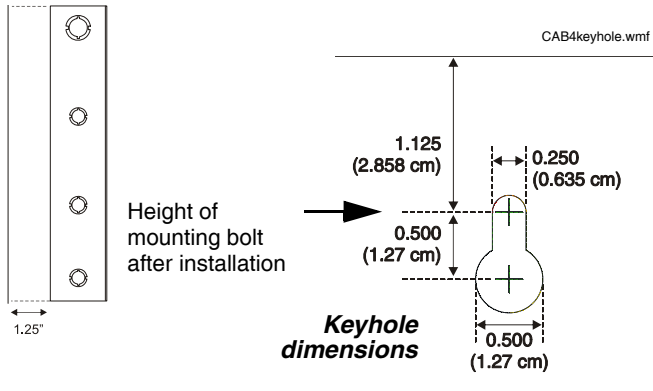
Agency Listings and Approvals

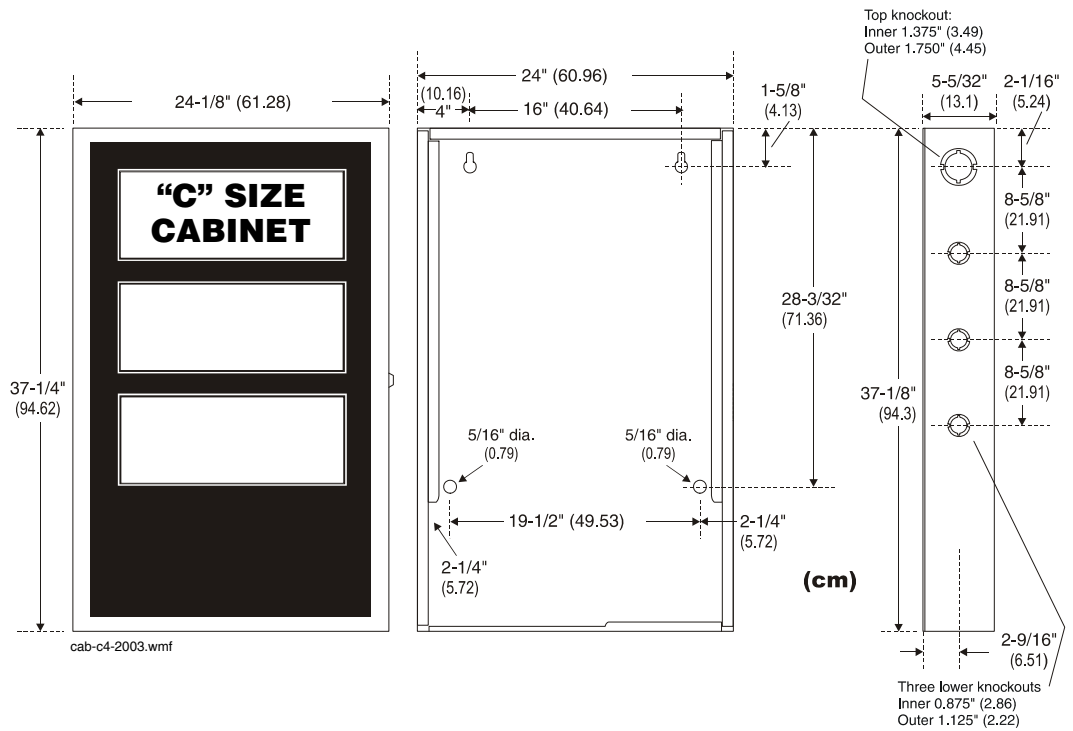
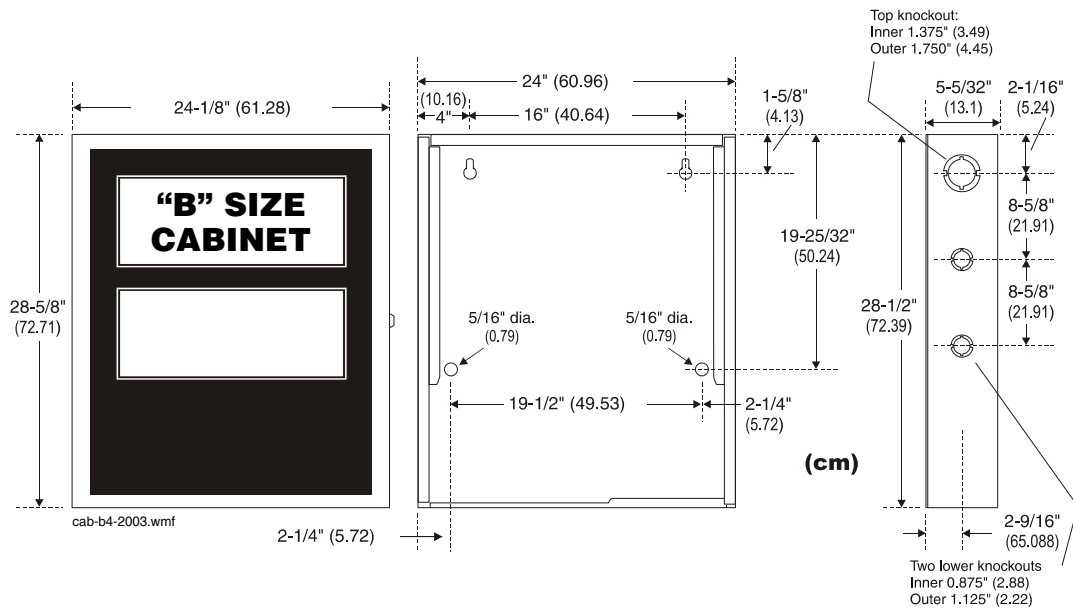
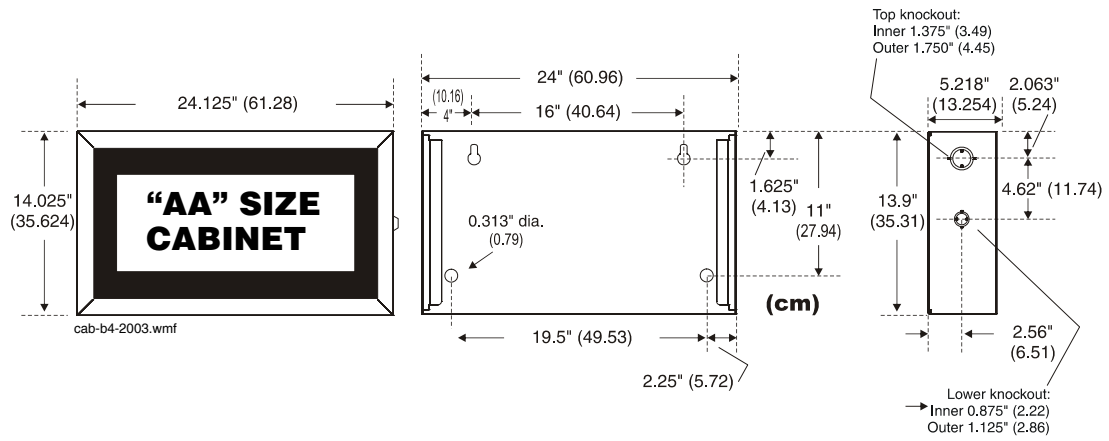
These listings and approvals below apply to the CAB-4 Series Cabinets. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

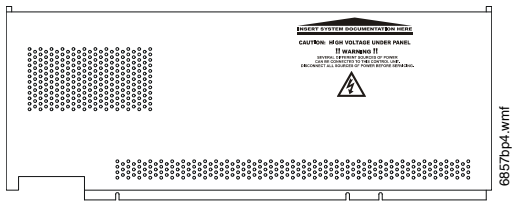
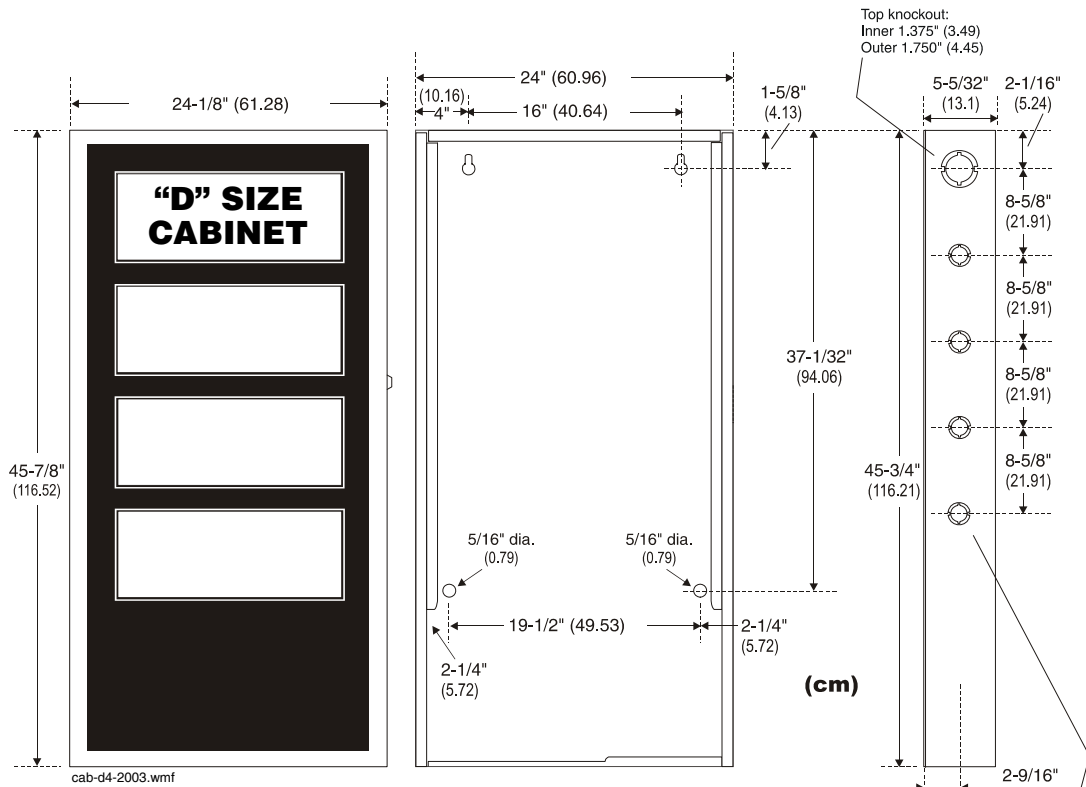
- **UL** Listed: S635
- **ULC** Listed: S635
- **MEA:** 317-01-E, 345-02-E
- **CSFM:** 7165-0028:0243 (NFS2-640), 7165-0028:0224 (NFS2-3030)
- **FM** approved
- **FDNY:** COA# 6085, COA# 6098

CAB-4 Series cabinets with SEISKIT-CAB comply with seismic requirements of **IBC 2000, IBC 2003, IBC 2006, IBC2009, and CBC 2007.**

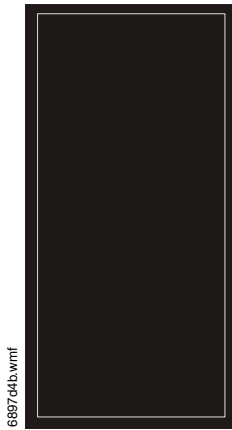
Cabinet Dimensions and Features







The BP2-4 Battery Plate covers the Main Power Supply and the batteries in the cabinet. Only one BP2-4 is required per cabinet unless an AA cabinet is used (no battery compartment).



"D" sized cabinet with solid door. Solid door option available on all sizes in black or red.

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This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.



Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NCM-W, NCM-F

ONYX® Series Network Communications Modules



Network Systems

General

The **Network Communications Module (NCM)** provides NOTIFIER Intelligent Fire Alarm Control Panels, and **NCA** and **NCA-2** Network Control Annunciators with a means to connect to **NOTI•FIRE•NET™**. Two types of NCM are available: **NCM-W** for connecting nodes with twisted-pair wire, and **NCM-F** for connecting nodes with fiber-optic cable.

NOTE: Do not mix NCM and High Speed (HS) NCM on the same system.

NCM-W Features

- Supports twisted-pair wire medium.
- NFPA Style 4 (Class B) operation or NFPA Style 7 (Class A) operation.
- Two programmable data thresholds.
- Transformer coupling provides electrical isolation between nodes.
- Pluggable terminal wiring with strain relief.
- Pluggable service connector (feeds signal directly through) in the event that power must be removed from a node.
- 312.5 Kbaud transmission rate.
- Data is regenerated at each node.
- Two network ports to allow simultaneous connection to fire alarm control panel and to programming computer.
- Enables software and database upload/download over **NOTI•FIRE•NET™**.
- Repeaters are available to increase signal.
- Repeaters may be utilized to switch media type.
- Up to 3,000 feet (914.4 m) between nodes in a point-to-point fashion (actual distance varies with wire quality).

NCM-W Interconnections: When wiring consecutive NCM-W boards, wiring may enter or exit at Port A or Port B. NCM-W port-to-port wiring is not polarity sensitive; use of Port A or Port B is arbitrary. An NCM-W may be connected to any of the following devices: **MIB-W**, **MIB-WF**, **NAM-232W**, **NCM-W** (in another panel), **NCS-W** network connection, **RPT-W**, **RPT-WF**.

NCM-W Switch Functions: The NCM-W provides two sets of switches to simplify network setup. Enable **ground fault detection** by setting "ON" switch SW103 (Channel A); switch SW101 (Channel B). Activate **on-board end-of-line resistors** by setting "ON" switch SW100 (Channel A); switch 102 (Channel B). **NOTE:** Correct configuration is dependent on network design; refer to the **NOTI•FIRE•NET™** manual.

For further information and diagrams, refer to the *NCM Installation Document*, 51533.

NCM-F Features

- Supports fiber-optic medium.
- NFPA Style 4 (Class B) or Style 7 (Class A) operation.
- Data is immune to all environmental noise.
- Optical isolation prevents ground loops.
- **NOTI•FIRE•NET™** fiber-optic medium.
- Fiber type: 62.5/125 micrometers (multimode); or 50/125 micrometers (multimode).



NCM-W

- Maximum attenuation is 8 dB with 62.5/125 μm fiber and 4.2 dB with 50/125 μm fiber.
- Wavelength (1): 820 nanometers (use standard 850 nm fiber).
- Connectors: ST® style.
- 312.5 Kbaud transmission rate.
- Data is regenerated at each node.
- Two network ports to allow simultaneous connection to fire alarm control panel and to programming computer.
- Enables software and database upload/download over **NOTI•FIRE•NET™**.
- Repeaters are available to increase signal.
- Repeaters may be utilized to switch media type.
- Up to 3,000 feet (914.4 m) between nodes in a point-to-point fashion (actual distance varies with wire quality).

NCM-F Interconnections: When wiring consecutive nodes/repeaters, fiber cable must exit one board on Transmit (TX) and enter the next node/repeater on Receive (RX). The fiber-optic pair (RX, TX) from Port A of one node/repeater may be connected to either Port A or Port B of another node/repeater. An NCM-F may be connected to any of the following devices: **MIB-F**, **MIB-WF**, **NAM-232F**, another **NCM-F**, **NCS-F** network connection, **RPT-F**, **RPT-WF**.

Common Specifications

Temperature and humidity ranges: This system meets NFPA requirements for operation at 0°C to 49°C (32°F to 120°F); and at a relative humidity (noncondensing) of 85% at 30°C (86°F) per NFPA, and 93% \pm 2% at 32°C \pm 2°C (89.6°F \pm 1.1°F) per ULC. 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 all peripherals be installed in an environment with a nominal room temperature of 15°C to 27°C (60°F to 80°F).

Power supply: 24 VDC @ 110 mA.

Mixing Wire and Fiber on the Same Network

In some networks, it may be necessary to mix twisted-pair wire and fiber-optic cable. There are two solutions:

- **In any network**, an RPT-WF may be used as an interface between wire and fiber.
- **In a network that uses an AFP1010 or AM2020**, a MIB-WF may be used as the interface between wire and fiber.

Mounting

Both NCM-W and NCM-F can be installed in any standard chassis such as the CHS-4L, CHS-M2, CHS-M3 or CHS-4N (see panel sheets). Additionally, the NCM-W can be door-mounted on the ADP-4B dress panel on a single-space blank plate (BMP-1) for mounting in an CAB-4 Series cabinet.

Agency Listings and Approvals

The following listings and approvals apply to the NCM. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635
- **ULC Listed:** S635
- **CSFM:** 7165-0028:0214, 7165-0028:0224, 7165-0028:0243
- **FM approved**
- **MEA approved**
- **FDNY:** COA#6061, COA#6065

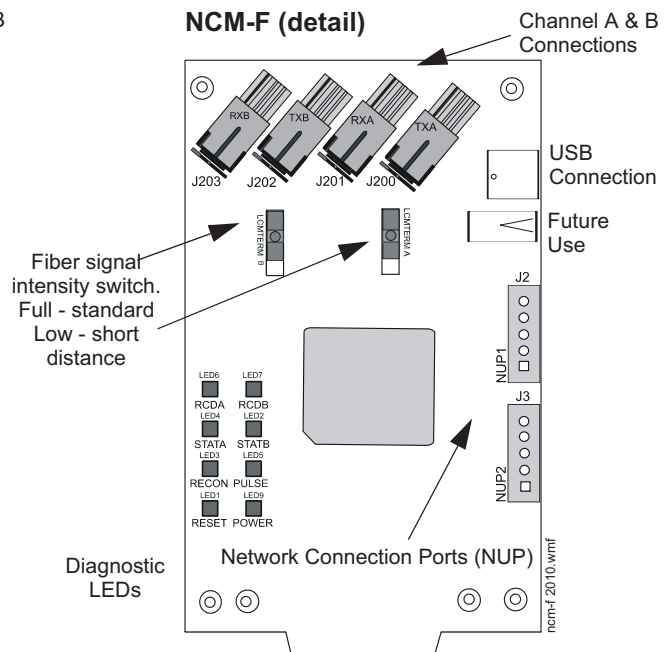
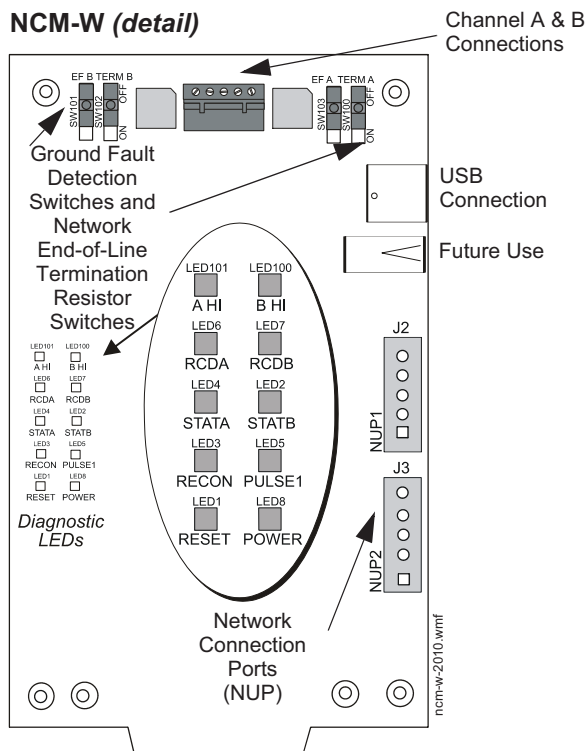
Product Line Information

NCM-W: Network Communications Module, twisted-pair wire interface.

NCM-F: Network Communications Module, fiber-optic cable interface.

Diagnostic LED Indicators

A HI (green): Illuminates to indicate the NCM-W Port A is set for high threshold (*NCM-W only*). **B HI (green):** Illuminates to indicate the NCM-W Port B is set for high threshold (*NCM-W only*). **RCD A (green):** Illuminates when the NCM is receiving data from **NOTI•FIRE•NET™** on Port A. **RCD B (green):** Illuminates when the NCM is receiving data from **NOTI•FIRE•NET™** on Port B. **STATA (yellow):** Illuminates when the NCM has not received valid data from **NOTI•FIRE•NET™** on Port A for at least 16 seconds. **STATB (yellow):** Illuminates when the NCM has not received valid data from **NOTI•FIRE•NET™** on Port B for at least 16 seconds. **RECON (yellow):** Illuminates when a reconfiguration on **NOTI•FIRE•NET™** is in progress. **PULSE (green):** Illuminates when the NCM is transmitting **NOTI•FIRE•NET™** is in progress. **RESET (yellow):** Illuminates when the microcontroller fails. **POWER (green):** Illuminates when +5 VDC is available.



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For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

AMPS-24/E

Power Supply

for the NFS-3030, NFS2-3030 and NCA-2



CatalogSection

General

NOTIFIER's AMPS-24/E is an addressable power supply and battery charger with up to three 24 VDC outputs. It operates in either FlashScan® or CLIP (Classic Loop Interface Protocol) mode with the NFS-3030/NFS2-3030 Fire Alarm Control Panel (FACP). It can also be used as the primary power supply for the NCA-2 Network Control Annunciator.

Features

- Addressable by NFS-3030/NFS2-3030 FACP.
- Selectable charging current charges 7 AH to 200 AH batteries.
- Isolated Signaling Line Circuit (SLC) interface.
- Trouble bus input for use with normally-open dry contacts or open-collector circuit.
- USB Type B connector for programming installation parameters.
- Brownout detection.
- Battery/battery charger supervision.
- Secondary Power Auxiliary Outputs: 24V @ 0.5A and 5V @ 0.15A.
- AC loss detection and AC loss delay reporting.
- Mounts in a CAB-4 Series enclosure, EQ Cabinet Series enclosure, BB-25, BB-100, or BB-200 Battery Backbox.

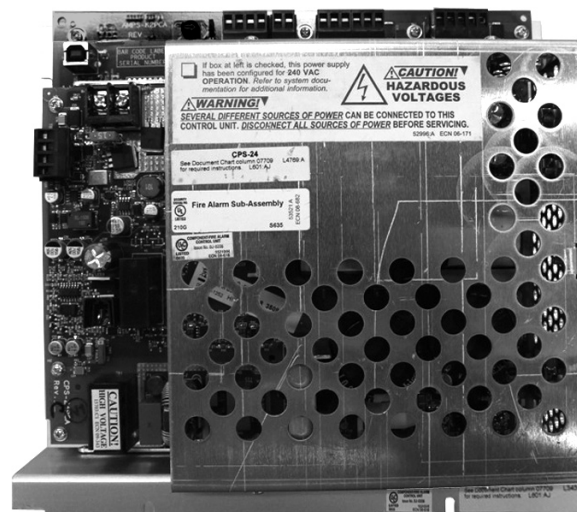
Specifications

- Primary (AC) power:
AMPS24: 110-120 VAC 50/60 Hz input, 5 A maximum;
AMPS24E: 220-240 VAC 50/60 Hz input, 2.5 A maximum.
- MAIN 24V Output - filtered power-limited power. Refer to table for configuration/current information.

Charger Setting/ Battery Size	Main 24V (TB 1 on Main Control Unit) Max. Current	*Total AUX 24V (TB3 on Main Control Unit with TB2 on CPS- 24) Max. Current
1A/7-26AH Bat- teries	5A	3A
2A/12-60AH Bat- teries	5A	3A
5A/55-200AH Configuration 1 Configuration 2	5A 3A	0A 1A
Disabled	5A	5A

* Maximum current for all AUX 24 volt outputs. Note that TB2 on CPS-24 is limited to 0.5A.

- AUX 24V - provides filtered power-limited power for additional components. Refer to table above for configuration/current information.
- Secondary power (battery) charging circuit: Current-limited, sealed lead-acid battery charger which will charge 7 to 200 AH batteries.
Selectable charging current: 1.0 A, 2.0 A or 5.0 A.
- Secondary power auxiliary outputs.
- Wire sizes: 10 AWG (5.26 mm²) to 22 AWG (0.326 mm²).
- Battery fuse (F2): 15 A, fast-acting.
- Shipping Weight: 4.25 lb



Agency Listings and Approvals

These listings and approvals apply to the AMPS-24/E power supply. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL: S635
- ULC: CS118
- City of Chicago
- City of Denver
- MEA: 345-02-E
- CSFM: 7165-0028:224
- FM: Approved
- FDNY: #6026

Product Line Information

AMPS-24: Addressable power supply/battery charger
AMPS-24E: Same as AMPS-24: 220-240VAC operation

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www.notifier.com

DVC Series

Digital Voice Command

DVC-EM



Voice Control Systems

General

The DVC is the heart of an integrated, full-featured Audio Command Center. The DVC Digital Voice Command combines the capabilities of a powerful digital audio processor, an event-driven audio message generator, and a router. Designed for use with Digital Audio Loop (DAL) devices such as DAA2, DAX and DAA series digital amplifiers as well as the DS-DB, each DVC supports a dedicated audio network with up to eight channels of audio, five channels of firefighter telephone communications, and control and supervision for up to 32 DAL devices. The DVC has two wire digital audio ports to connect to wire DAL segments. Either or both ports may be converted to multi-mode fiber or single-mode fiber using fiber option modules. Larger audio systems incorporating hundreds of amplifiers can be created by networking additional DVC units via **NOTI•FIRE•NET™**.

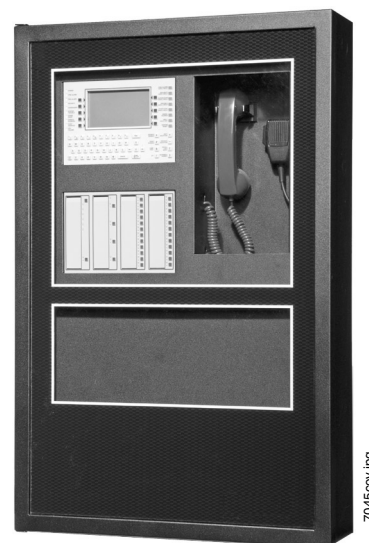
The DVC may be networked with ONYX® Series panels via **NOTI•FIRE•NET** with an NCA-2, or with an NFS2-3030 (running in network monitor mode). A DVC can be connected directly with a single NFS2-640 or NFS2-3030 Fire Alarm Control Panel (FACP) to create a standalone integrated audio solution as well. Refer to the DVC manual for details.

When used as an Audio Command Center with Emergency Paging capability, the optional DVC-KD Keypad Display is required.

NOTE: Unless otherwise noted, the term "DVC" refers to the DVC-EM.

Features

- Programmable from NUP port using *VeriFire® Tools*.
- Up to 32 minutes of standard quality or 4 minutes of high quality digital audio storage of user-selected/created messages and tones. Supports twisted-pair wire media. Supports single- and multi-mode fiber-optic media when used with fiber option modules.
- 4-channel analog audio supported with optional DVC-AO
- Up to 1000 audio sequences.
- Message prioritization.
- Equations support flexible programming for distribution of messages.
- Electrically isolated digital audio ports for direct connection with up to 32 Digital Audio Loop (DAL) devices. Style 4 or 7 configurations supported.
- Optional DS-RFM, DS-FM, and DS-SFM fiber modules may be used to convert one or both Digital Audio Ports for operation with single-mode or multi-mode fiber.
- DCC (Display and Control Center) capabilities when used with optional DVC-KD.
- Firefighters' Telephone Communications to local FFT riser on DVC, 32 local DAL device FFT risers, and FFT communication to additional command stations via **NOTI•FIRE•NET**.
- Local paging microphone option.
- Remote microphone options.
- Optional Digital Voice Command Remote Paging Unit (DVC-RPU), or DVC-RPU mode.



DVC
Shown using CA-2 mounting option,
SBB-C4, and ADDR-C4 door.

- Broad All-Call functionality when used with DVC-KD (DVC-Keyboard Display): All Call, Page Active Evac Areas, Page Active Alert Areas, Page Inactive Areas.
- Auxiliary input for 12 V_{p-p} analog low-level audio sources. Includes user audio level adjustment feature.
- Auxiliary input accepts external audio sources such as telephone paging or background music. High impedance input accepts 600 ohm, line level, 1.0 VRMS, or 1.41 V_{p-p} low level audio. Selectable AGC, user control of audio level, and audio supervision are supported.
- Associated NCA-2, or NFS2-3030 (programmed for network monitor mode) supports **NOTI•FIRE•NET** applications.
- Multiple audio command centers supported via **NOTI•FIRE•NET**.
- Distribution of one channel of standard-level paging audio on **NOTI•FIRE•NET**.
- Three standalone, non-network mode options:
 - NFS2-3030 (NUP to NUP) digital and analog.
 - NFS2-640 (NUP to NUP) analog audio only.
 - NFS2-640 with NCA-2 (NUP to NUP to NUP) digital and analog.
- Push-to-talk relay, or logic argument.
- Isolated alarm bus input, to be used for backup activation of alarm messages in the event network communication is lost.

Installation Options

The DVC provides flexible configurations based on one-row or two-row chassis options that mount into size "B", "C", or "D" CAB-4 Series cabinets.

The CA-2 supports a DVC, paging microphone, optional FFT telephone, and mounting location for an NCA-2 or NFS2-3030D CPU. The ADDR audio door series can be used when a CA-2 is mounted in the top two rows. The CA-1 supports a DVC and an optional microphone in a single row. For firefighters' telephone applications with a CA-1, the CFFT-1 can be mounted in the row below the CA-1.

NOTE: For NFS2-640/DVC applications using DAL devices, an NCA-2 is required to announce DAL device events. Refer to the DVC System Audio Product Application Guide (part number M-AG-DVC) for more details on DVC applications).

Specifications

- **24 VDC power (TB1):** 24 VDC, 1.0 A, non-resettable, power-limited by the source. Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair.
 - **Digital audio ports, wire media, A and B (TB2, TB3):** Maximum distance per segment is 1900 feet (579.12 m) on Belden 5320UJ (18 AWG, TP) FPL cable: 18 AWG (0.821 mm²) twisted-pair, foil-shielded, power-limited. Consult wiring documentation provided in document P/N 52916ADD:C Addendum to DVC and DAA Manuals.
 - **Digital audio ports, single- and multi-mode fiber-optic media:** (See notes below)
 - **DS-FM and DS-SFM fiber option module (no direct DAA connection):**
 - *6.5dB maximum attenuation* for multi-mode with 50/125 micrometer cable @ 1310 nm.
 - *10dB maximum attenuation* for multi-mode with 62.5/125 micrometer cable @ 1310 nm.
 - *30dB maximum attenuation* for single-mode with 9/125 micrometer cable @ 1310 nm.
 - **DS-SFM (single-mode fiber DAA connection):**
 - *17dB maximum attenuation* for single-mode with 9/125 micrometer cable at 1310 nm going **from** the DS-SFM to the fiber DAA.
 - *4dB maximum attenuation* for single-mode with 9/125 micrometer cable going **from** the fiber DAA to the DS-SFM.
 - *12dB minimum attenuation* going **from** the DS-SFM to the fiber DAA.
 - **DS-RFM (multi-mode fiber DAA connection):**
 - Attenuation going **from** the fiber DAA to the DS-RFM:
 - *2dB maximum attenuation* for multi-mode with 50/125 micrometer cable @ 850 nm for the DS-RFM.
 - *4dB maximum attenuation* for multi-mode with 62.5/125 micrometer cable @ 850 nm for the DS-RFM.
 - Attenuation going **from** the fiber DS-RFM to the fiber DAA:
 - *12dB minimum* attenuation*, 16dB for both cable types.
- Notes:
1. If the length of the fiber run results in an attenuation of less than 12dB, a suitable attenuator must be used.
 2. ST@ Style connection required at DAA end of any fiber connection. LC style connectors are required for the DS-FM, DS-RFM, and DS-SFM.
- **Auxiliary input A (AUX A, TB4):** Signal strength from low-level analog audio input: maximum 1.0 VRMS, or 1.41 V_{p-p}. Optional supervision is selectable through programming. Recommended wiring: 18 AWG (0.821 mm²) twisted-pair; max. 14 AWG (2.08 mm²). Auxiliary input must be in the same room as the DVC.
 - **Auxiliary input B (AUX B, TB14):** Signal strength from low-level analog audio input: 12 V_{p-p} nominal, 15 V_{p-p} maxi-

mum. Optional supervision is selected through programming. Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair.

- **Remote microphone interface (TB9):** Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair. Power-limited. Maximum distance between remote microphone and DVC: 1000 feet (300 m).
- **Push-to-talk interface (TB10):** Dry contact. Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair.
- **Alarm bus (TB12):** Power-limited by source. Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair.
- **FFT riser (TB13):** Power-limited output. Class A (Style Z) or Class B (Style Y) operation. Style Y two-wire connections require a 3.9K ohm, 1/2 watt resistor (P/N K-3.9K). Maximum wiring resistance (including individual telephone zone to last handset) permitted is 50 ohms, 10,000 feet (3048 m) maximum wiring distance at 12 AWG (3.31 mm²) to last handset.
- **Optional DVC-AO analog audio output circuits (TB5, TB6, TB7, and TB8):** Supervised, power-limited outputs. Signal strength: +12 V_{p-p} nominal, +15 V_{p-p} maximum. Recommended wiring: 18 AWG (0.821 mm²) twisted-pair; max. 14 AWG (2.08 mm²). Maximum impedance: 66 ohms.

Standards and Codes

The Digital Voice Command DVC and DVC-EM comply with the following standards:

- NFPA 72 2002 National Fire Alarm Code.
- Underwriters Laboratories Standards UL 864, 9th edition, and UL 2572.
- Underwriters Laboratories of Canada (ULC) ULC-S527-99 Standard of Control Units for Fire Alarm Systems.

Listings and Approvals

The listings and approvals below apply to the DVC and DVC-EM Digital Voice Command. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635.
- **ULC Listed:** S635.
- **FM Approved.**
- **CSFM:** 7165-0028:0224 (NFS2-3030); 7165-0028:0243 (NFS2-640).
- **FDNY:** COA#6114 (NFS2-3030); COA#6085, COA#6121 (NFS2-640).
- **City of Chicago** approved: High Rise, Class 1, Class 2 (NFS2-3030, NFS2-640, NCA-2).
- **City of Denver** approved (NFS2-3030).
- **PSB Corporation** approved (*Singapore*) (NFS2-3030).

Product Line Information

DVC-EM: Digital Voice Command, digital audio processor with message storage for up to 32 minutes of standard quality (4 minutes at high quality) digital audio. Supports twisted-pair wire media. Options: DS Fiber modules, DVC-RPU.

DVC-RPU: Digital Voice Command Remote Paging Unit. Includes the keypad/display. Supports twisted-pair wire media; use DS fiber modules for fiber media. See DN-60726.

DVC-KD: Keypad for local annunciation and controls; status LEDs and 24 user-programmable buttons.

DVC-AO: Optional DVC Analog Output board provides four analog output circuits for use with AA or XPIQ Series amplifiers. Four-channel operation supported.

CA-1: Chassis, occupies one tier of a CAB-4 Series enclosure. The left side accommodates one DVC and a DVC-KD (optional); and the right side houses a CMIC-1 microphone and its well (optional).

CMIC-1: Optional microphone and microphone well assembly used with the CA-1 chassis.

CFFT-1: The CFFT-1 Chassis for Firefighters' Telephone mounts in the row directly under a DVC that is mounted in a CA-1 single row chassis. The CFFT-1 includes one FFT handset. The DP-CFFT Dress Plate (separately ordered, required) has one open position for mounting an ACS annunciator or a BMP-1 Blank Module Plate.

CA-2: Chassis assembly, occupies two tiers of a CAB-4 Series enclosure. The left side accommodates one DVC mounted on a half-chassis and one NFS2-3030 or NCA-2 mounted on a half-chassis. The right side houses a microphone/handset well. The CA-2 assembly includes a microphone. DPA-2B dress plate is required (below); the VP-2B Vent Plate is also required for top row configurations. ADDR Series doors with two-tier visibility are available for use with the CA-2 configuration: ADDR-B4, ADDR-C4, ADDR-D4 (below).

DPA-2B: Dress plate required for CA-2 chassis assembly.

VP-2B: Vent plate required for cabinet configurations where the DPA-2B is used for the top two row position.

TELH-1: Firefighters' Telephone Handset for use with the DVC when mounted in the CA-2 chassis. Order separately.

ADDR-B4: Two-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-B4 backbox with the ADDR-B4. See DN-6857.

ADDR-C4: Three-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-C4 backbox with the ADDR-C4. See DN-6857.

ADDR-D4: Four-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-D4 backbox with the ADDR-D4. See DN-6857.

DPA-1: Dress panel, can be used with the CA-1 chassis when configured with a DVC, DVC-KD, and CMIC-1.

DPA-1A4: Dress panel, used with the CA-1 chassis when the CMIC-1 is not used. Provides mounting options on right two bays for two ACS annunciators, or for blank plates.

ACT-4: Audio-coupling transformer. Used to electronically isolate DVC-AO analog risers.

ACT-25, ACT-70: Audio-coupling transformers for 25V and 70V high-level audio. Used to isolate and convert high-level audio to low-level, supporting applications with large numbers of analog amplifiers.

DAX-3525(E)/DAX-3570(E): 35W, 25 or 70.7VRMS. Digital audio amplifiers with charging power supply and 2 Class B or 1 Class A output, shipped mounted on chassis. Options: BDA-25/70 backup amplifier, DS Fiber modules.

DAX-5025(E)/DAX-5070(E): 50W, 25 or 70.7VRMS. Digital audio amplifiers with power supply and 2 Class B or 1 Class A output, shipped mounted on chassis. Options: BDA-25/70 backup amplifier, DS Fiber modules.

DAA2-5025(E)/DAA2-5070(E): 50W, 25 or 70.7VRMS. Digital audio amplifiers with charging power supply and 4 Class B or 2 Class A outputs, shipped mounted on chassis. RM-1 port, FFT port, Aux audio port. Supports optional BDA for backup amplifier or 2-channel operation, and DS Fiber modules.

DAA2-7525(E): 75W, 25VRMS. Digital audio amplifiers with power supply and 4 Class B or 2 Class A outputs, shipped mounted on chassis. RM-1 port, FFT port, Aux audio port. Supports optional BDA for backup amplifier or 2-channel operation, and DS Fiber modules.

DS-DB: Digital Series Distribution Board, provides bulk amplification capabilities to the DVC while retaining digital audio distribution capabilities. Can be configured with up to four DS-AMPs, supplying high-level risers spread throughout an installation. See DN-60565.

DS-AMP/E: 125W, 25 VRMS, or 100W, 70VRMS. 70VRMS requires DS-XF70V step-up transformer. Digital Series Amplifier, part of the DS-DB system. See DN-60663.

DS-BDA: Digital Series Backup Digital Amplifier, 25 or 70VRMS, can be configured to act as a one-to-one backup for DS-AMP/E amplifiers. Can also be programmed to provide a second audio channel for a DS-AMP. See DN-60663.

BDA-25, BDA-70: Backup Digital Amplifier, 25 or 70.7VRMS, can be configured to act as a one-to-one backup for DAX and DAA2 series amplifiers. For DAA2 Series only, supports alternative second channel operation.

DS-RFM, DS-FM, DS-SFM: Fiber conversion modules for DVC, DS-DB distribution board, and DAX and DAA2 Series amplifiers. See DN-60633.

DAA Series Digital Audio Amplifiers: Legacy DAA Series amplifiers are compatible with DVC systems running SR4.0. For DAA-50 series amplifiers, see DN-7046. For DAA-7525 Series, see DN-60257.

- **DAA-5025:** 50W, 25Vrms Digital Audio Amplifier assembly with DAA-PS power supply board, shipped mounted to its chassis. Supports twisted-pair wire media. (For multi-mode fiber-optic media order DAA-5025F. For single-mode fiber-optic media order DAA-5025SF.)

- **DAA-5070:** 50W, 70.7Vrms Digital Audio Amplifier assembly with DAA-PS power supply board, shipped mounted to its chassis. Supports twisted-pair wire media. (For multi-mode fiber-optic media order DAA-5070F. For single-mode fiber-optic media order DAA-5070SF.)

- **DAA-7525:** 75W, 25Vrms Digital Audio Amplifier assembly with DAA-PS power supply board. Shipped mounted to its chassis (no battery charger on DAA-7525 power supply board). Supports twisted-pair wire media. (For multi-mode fiber-optic media order DAA-7525F. For single-mode fiber-optic media order DAA-7525SF.)

SEISKIT-CAB: Seismic kit for CAB-4 series cabinets. Includes battery bracket for two 26AH Power Sonic batteries and TELH-1 telephone handset strap. See document 53829.

SEISKIT-DAA: Seismic kit for DAA, DAA2 and DAX series amplifiers, required when using CHS-BH1 chassis. Includes battery bracket for two 12AH Power Sonic batteries. See document 53851.

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