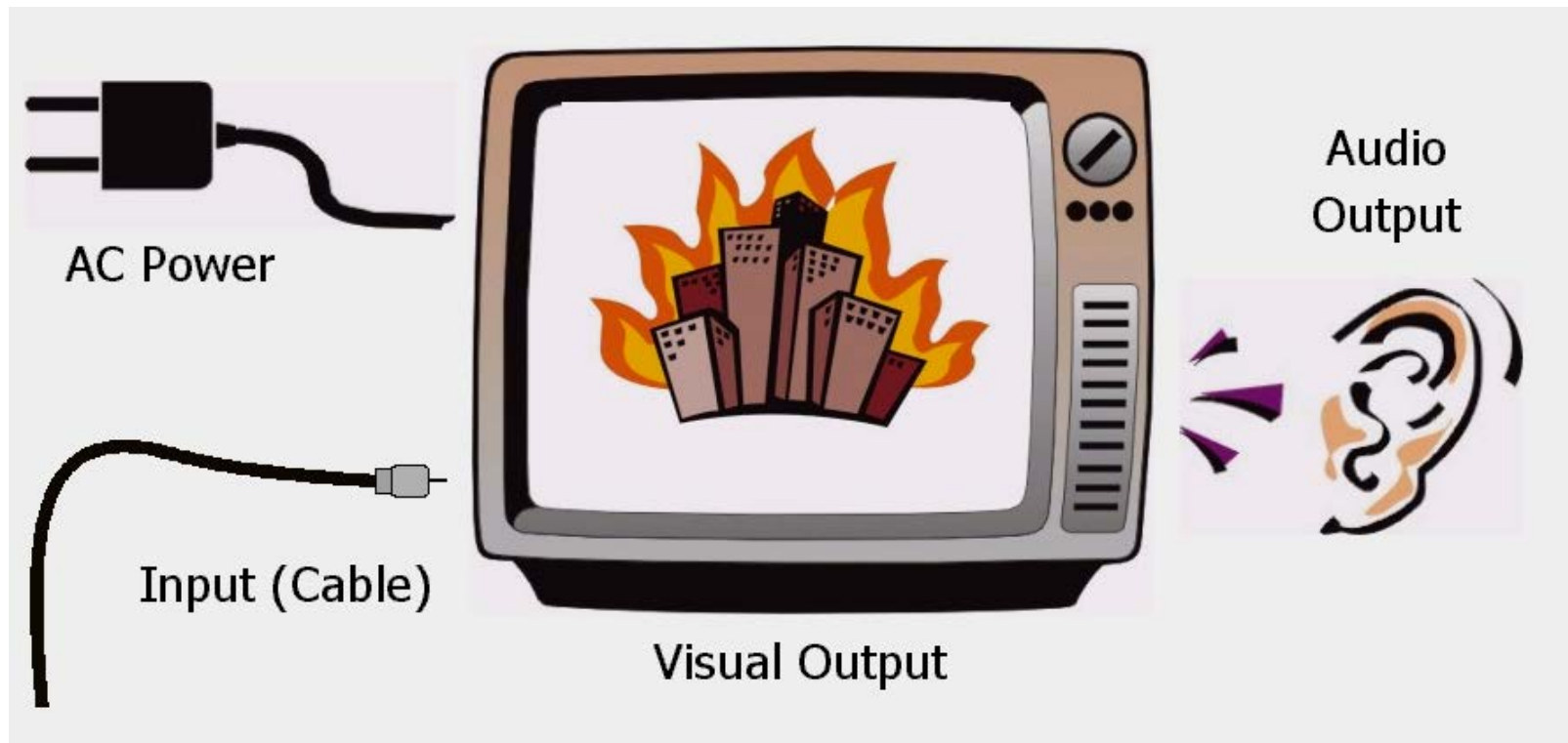


Fire Alarm System Overview



ELEMENTS OF A CONTROL PANEL

Main Controller, Power, Inputs, and Outputs



ELEMENTS OF A CONTROL PANEL

Inputs



Smoke Detector



Manual Pull Station



Outputs



Horn



Strobe



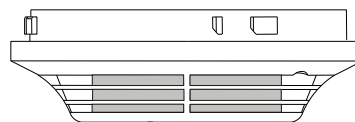
Primary (AC)



Secondary (DC)

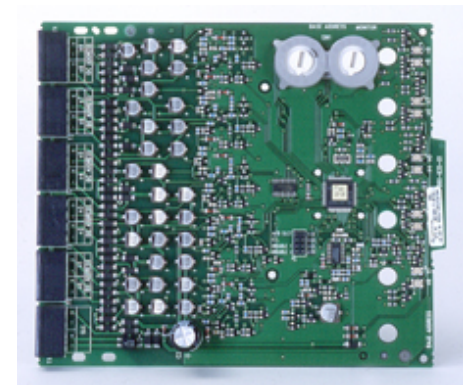
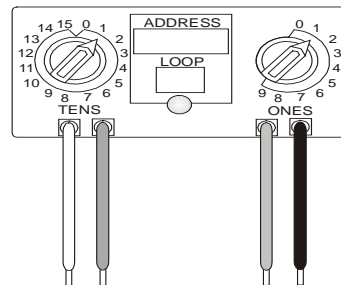
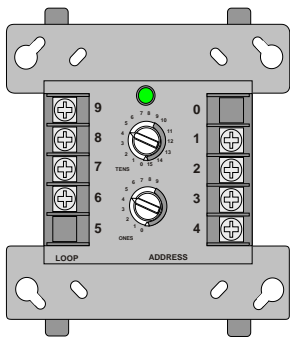
Notifier Detectors

Detector Part No.	Description	Bases Part No.	Description
FSP-851	Photo Det.	B501/UL	4" Detector Base
FST-851	Fixed Temp. 55 Deg	B200S	Programmable Sounder Base
FST-851R	Fixed + ROR Heat	B200SR	Non Programmable Sounder Base
FST-851H	High Heat	B224BI	Isolator Base
FAPT-851	Acclimate Det.	B224RB	Relay Base
FSL-751	Laser Det.		
FSC-851	Intelliquad Det.		
FCO-851	CO Det.		
FSB-200	Beam Det.		
DNR	Duct Det. Housing		
FSA-5000	5K Sq.Ft Aspiration Det.		
FSA-8000	8K Sq. Ft. Aspiration Det.		
FSA-20000	20K Sq. Ft Aspiration Det.		




Notifier Modules

Input Modules	Description	Output Modules	Description
FMM-1	Monitor Module	FCM-1	Control Module
FMM-101	Mini Monitor Mod.	FDRM-1	2 I/P, 2 Relay O/P
FDM-1	Dual Monitor Mod	FRM-1	Relay Module
FMM-4-20	4-20 mA Mon. Mod.	XP6-C	6 Control Module
FZM-1	Zone Monitor Mod	XP6-R	6 Relay Module
XP10-M	10 Input Mon. Mod.	FCM-1-REL	Releasing Control Mod.
XP6-MA	6 Input Zone Mon.		
NBG-12LX	Manual Pull Station		



Notifier Horn/Strobes

Horn/Strobe/ Chime/Bell	Description	Horn/Strobes/ Chime/Bell	Description
P2R	Horn/Strobe 12/24 Volt Red Multi-Candela 15,15/75, 30, 75,110,115 cd	SSM24-10	24V, 10" Bell.
P2R-P	Horn/Strobe 12/24V Red Multi-Candela 15,15/75, 30, 75,110,115 cd, Plain (No Lettering)	HW	Horn Only 12 or 24 volt White Wall Mount
P2RK	Horn/Strobe, 12/24 Volt, Red, Multi-Candela 15,15/75,30, 75,110,115 cd, Outdoor, Includes backbox	HR	Horn Only 12 or 24 volt Red Wall Mount
SR	Strobe 12/24 Volt Red Multi-Candela 15,15/75,30,75,110,115 cd	HRK	Horn Only, 12 or 24 volt, Red, Wall Mount, Outdoor, Includes back box
SR-P	Strobe, 12/24V, Red, Multi-Candela 15,15/75,30,75,110,115 cd, Plain (No Lettering)	CHR	Chime only 12/24 volt Red
SW	Strobe, 12/24 Volt, White, Multi-Candela 15,15/75,30,75,110,115 cd		
SRK	Strobe, 12/24 Volt, Red, Multi-Candela 15,15/75,30,75,110,115 cd, Outdoor, Includes backbox		
SRH	Strobe, 12/24 Volt, Red, High-candela, 135,150,177,185 cd		
SRHK	Strobe, 12/24 Volt, Hi Candela, 135,150,177,185 cd, Red Outdoor, Includes backbox		
SWHK	White outdoor strobe, high candela		

Notifier Speaker/Strobe

Horn	Description	Strobes	Description
SPCR	Ceiling; Red; Speaker only	SPCW	Ceiling White Speaker only
SPR	Advance Spectra Alert Speaker US	SPSW	Wall, White, Selectable Candela, Speaker/Strobe
SPW	Wall Red Speaker only US	SPSCW	Ceiling, White, Selectable Candela, Speaker/Strobe
SPSR	Wall Red Selectable Candela Speaker/Strobe	NF-SP100C/UL	UL Certified, 2W Ceiling speaker for 70.7V operation, Notifier
SPSRK	Wall, Outdoor, Red, Selectable Candela, Speaker/Strobe		
SPSRH	Wall, Red, Selectable Candela, Speaker/Strobe; Hi Cd		
SPSRV	Wall, Red, Selectable Candela, Speaker/Strobe, Hi dB		
SPSWH	Wall, White, Selectable Candela, Speaker/Strobe; Hi Cd		
MWBB	Wall, Metal Weatherproof Back Box, Red		
MWBBW	Wall, Metal Weatherproof Back Box, White		
WBB	Weatherproof Backbox, Red.		
SBBSPR	Wall Mount Speaker Surface Mount Back Box, Red		
SB BSPW	Wall Mount Speaker Surface Mount Back Box, White		



Notifier Panels – Addressable (ONYX® Series)

NFS-320E



• System Features

- 1 Signaling Line Circuit (SLC)
- Up to 318 intelligent points
- 4 Notification Appliance Circuits (NAC) for Releasing Applications
- Networkable (NOTI•FIRE•NET)

• Typical applications

- Standalone retail
- Schools
- Small commercial
- Restaurants

NFS2-640E



• System Features

- 1 Signaling Line Circuit (SLC) expandable to 2
- 636 intelligent points (159 detectors/159 modules per SLC)
- 4 on-board NACs
- Optional integrated digital voice evacuation (DVC) support
- Networkable (NOTI•FIRE•NET)
- 80 or 640 character LCD display with QWERTY keypad

• Typical Applications

- Commercial offices
- Malls
- Assisted living facilities
- Educational buildings
- Hotels

NFS2-3030E



• System Features

- 1 SLC expandable to 10
- Up to 3,180 intelligent points (159 Dets./159 Mods. per SLC)
- Optional integrated digital voice evac.
- Network capable
- 640-character LCD display with QWERTY keypad
- 1,000 logic equations

• Typical applications

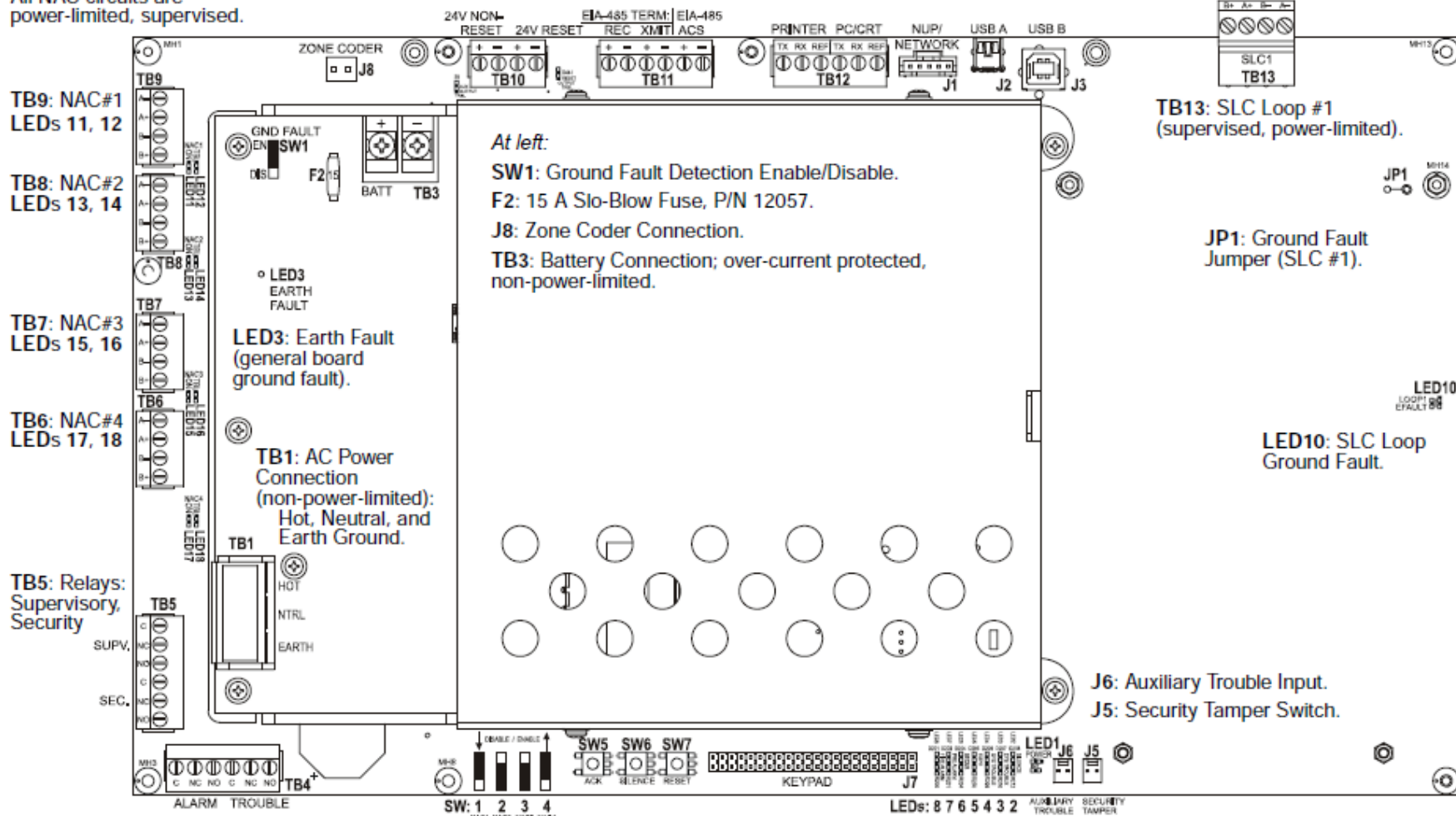
- High rise buildings
- Shopping Malls
- Hotels
- Airports
- Sports arenas/complexes

CPU-320 Board Diagram

TB10: DC Power (24 VDC, power-limited); Non-Resettable, Resettable.
TB11: EIA-485 Connection (supervised); Terminal Mode, ACS Mode.
TB12: EIA-232 Connection; Printer, PC/Terminal (CRT).

J1: Network/Service Connection (NUP), power-limited, supervised.
J2: USB A *VeriFire Tools* Connection.
J3: USB B *VeriFire Tools* Connection.

All NAC circuits are power-limited, supervised.



At left:
SW1: Ground Fault Detection Enable/Disable.
F2: 15 A Slo-Blow Fuse, P/N 12057.
J8: Zone Coder Connection.
TB3: Battery Connection; over-current protected, non-power-limited.

TB13: SLC Loop #1 (supervised, power-limited).

JP1: Ground Fault Jumper (SLC #1).

LED10: SLC Loop Ground Fault.

J6: Auxiliary Trouble Input.
J5: Security Tamper Switch.

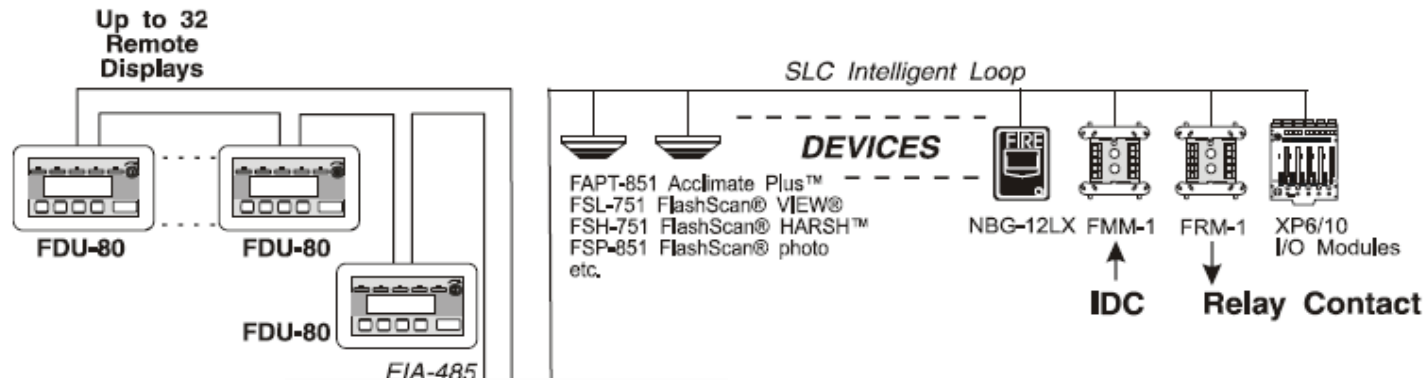
TB4: Alarm Relay, Trouble Relay. Output relays; power-limited only if connected to a power-limited source.

SW1, SW2, SW3, SW4: Disable-Enable switches for Backup Alarm, NACs 1 – 4 respectively.

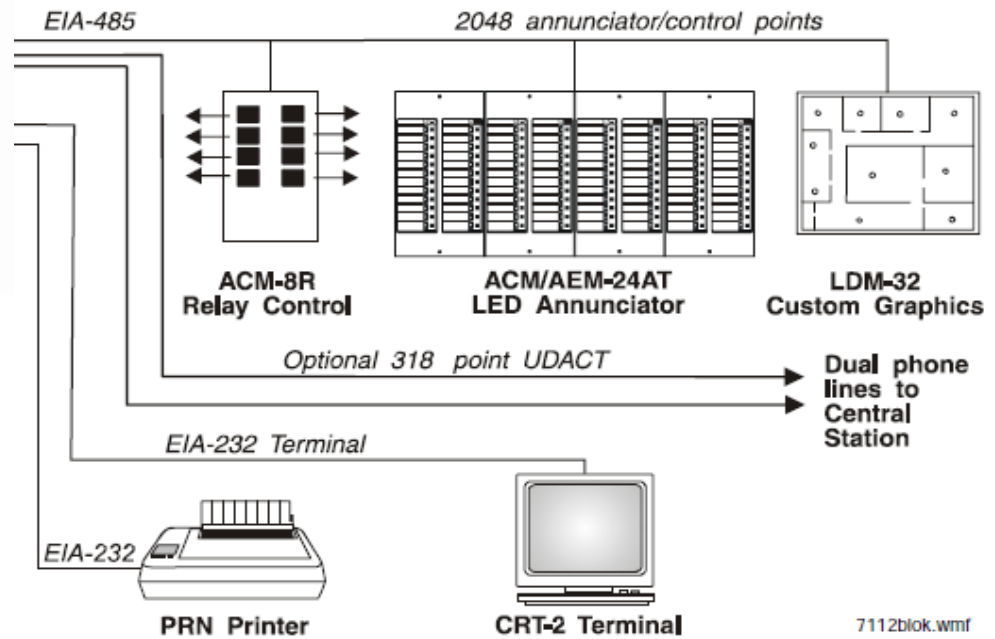
System switches, "No Keyboard Operation":
SW5 Acknowledge
SW6 Silence
SW7 Reset

J7: KDM-R2 Connection

LED1: Power On (AC or battery)
LED2: Signals Silenced
LED3: Point Disabled
LED4: System Trouble
LED5: Supervisory
LED6: Security
LED7: Pre-Alarm
LED8: Fire Alarm



NFS-320



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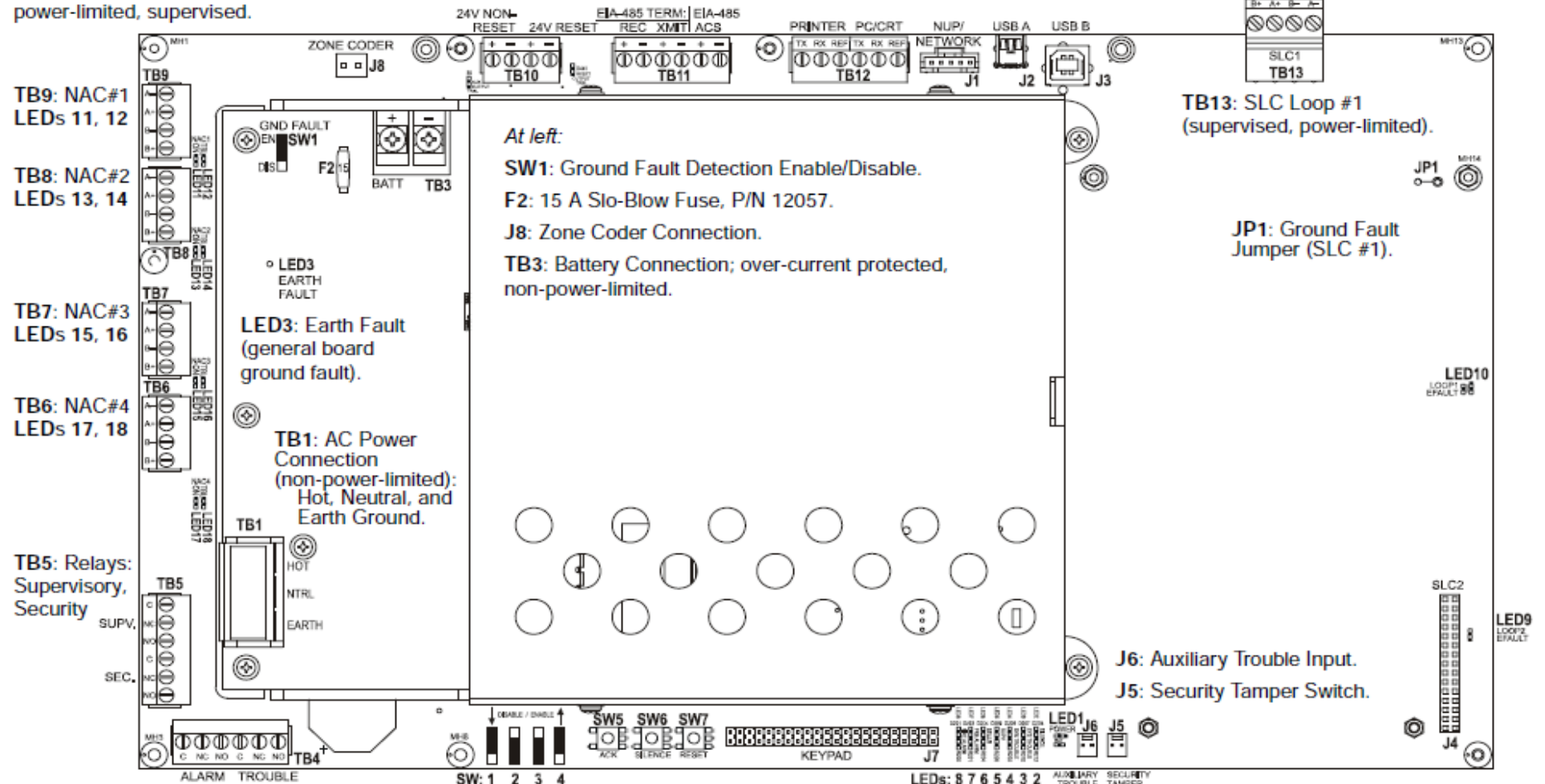
Sample System Options

CPU2-640 Board Diagram

All NAC circuits are power-limited, supervised.

TB10: DC Power (24 VDC, power-limited); Non-Resettable, Resettable.
 TB11: EIA-485 Connection (supervised); Terminal Mode, ACS Mode.
 TB12: EIA-232 Connection; Printer, PC/Terminal (CRT).

J1: Network/Service Connection (NUP), power-limited, supervised.
 J2: USB A **VeriFire Tools** Connection.
 J3: USB B **VeriFire Tools** Connection.



TB4: Alarm Relay, Trouble Relay. Output relays; power-limited only if connected to a power-limited source.

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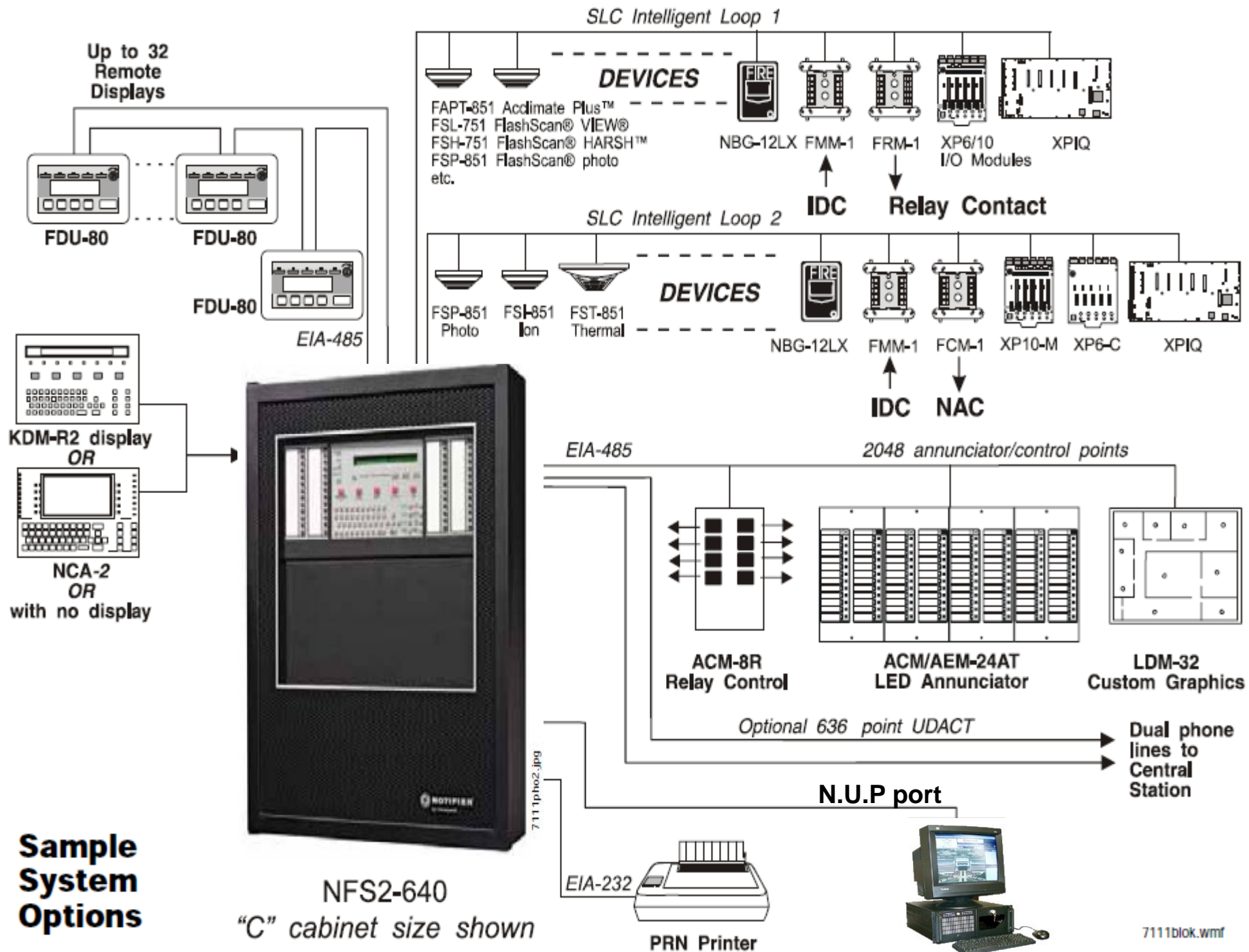
SW1, SW2, SW3, SW4: Disable-Enable switches for Backup Alarm, NACs 1 – 4 respectively.

System switches, "No Keyboard Operation":
 SW5 Acknowledge
 SW6 Silence
 SW7 Reset

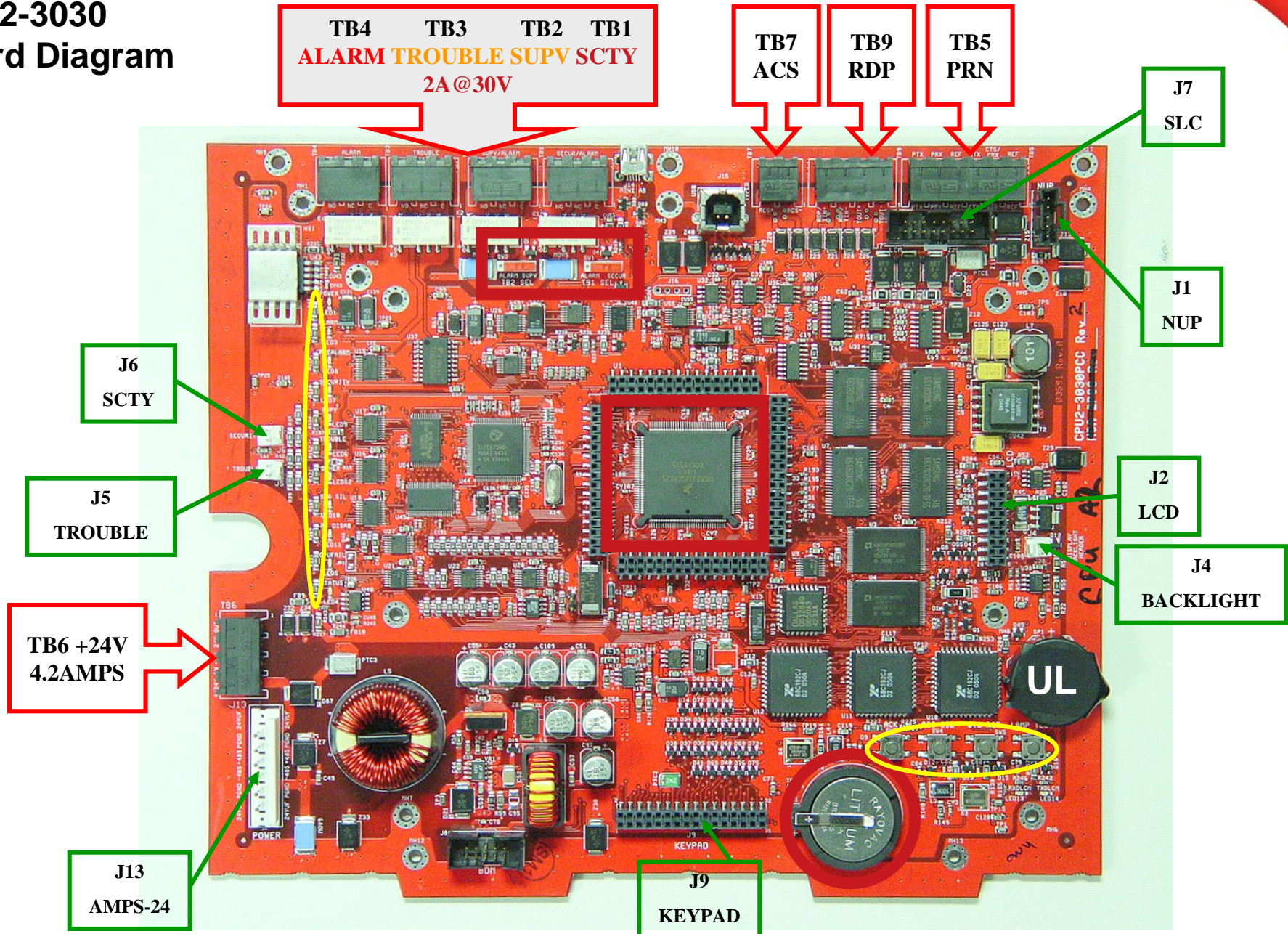
J7: KDM-R2 Connection

LED1: Power On (AC or battery)
 LED2: Signals Silenced
 LED3: Point Disabled
 LED4: System Trouble
 LED5: Supervisory
 LED6: Security
 LED7: Pre-Alarm
 LED8: Fire Alarm

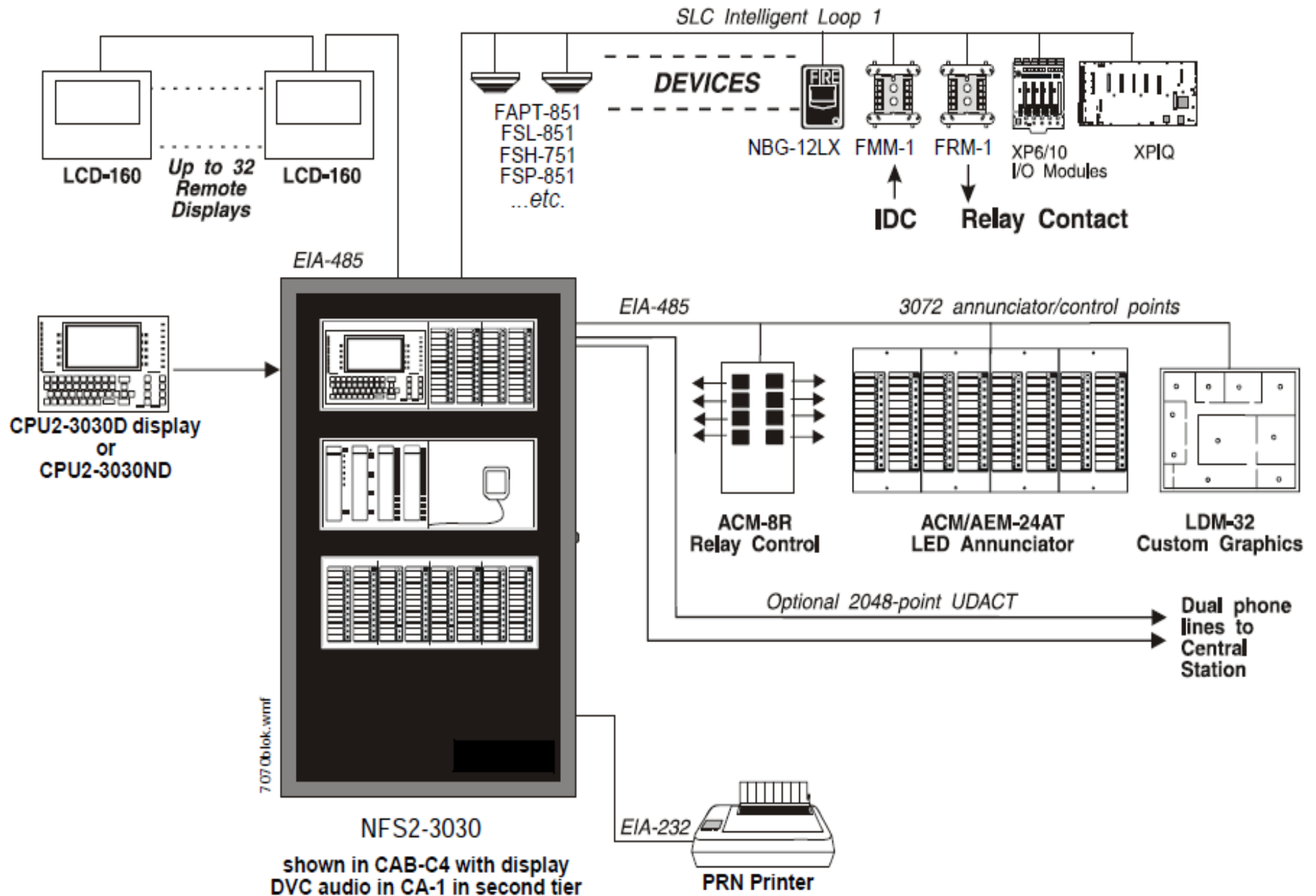
LED10: SLC Loop #1 Ground Fault.
 LED9: SLC Loop #2 Ground Fault.
 J4: LEM-320 Connector for SLC Loop #2.



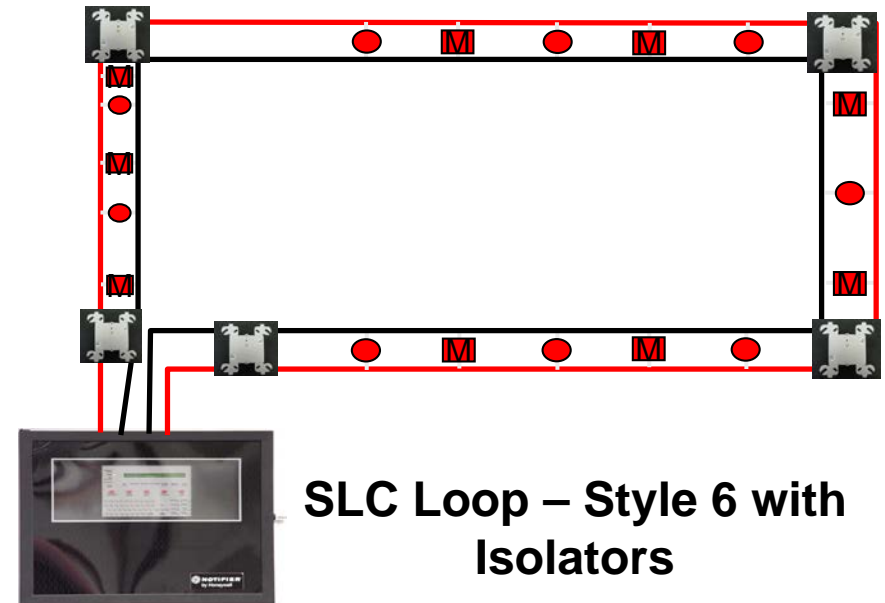
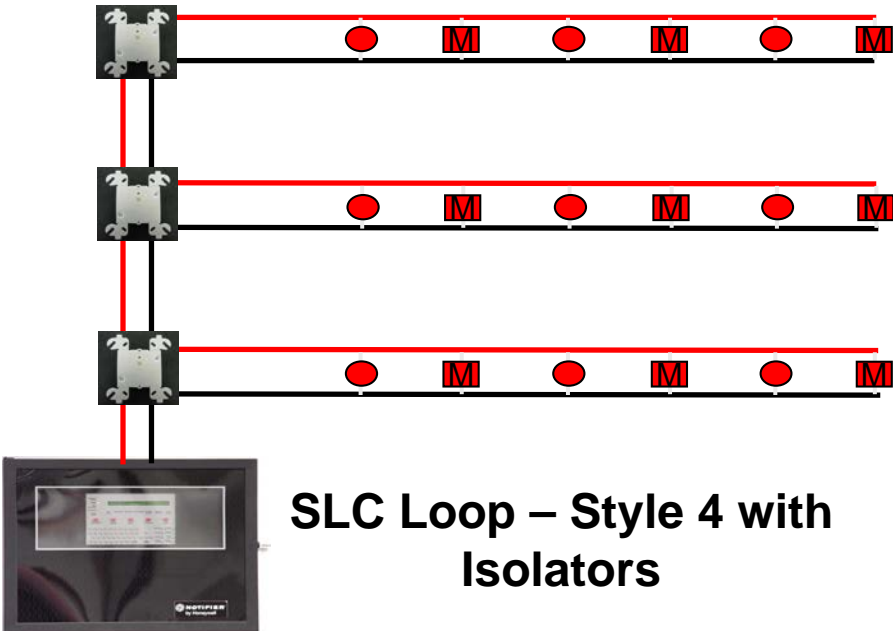
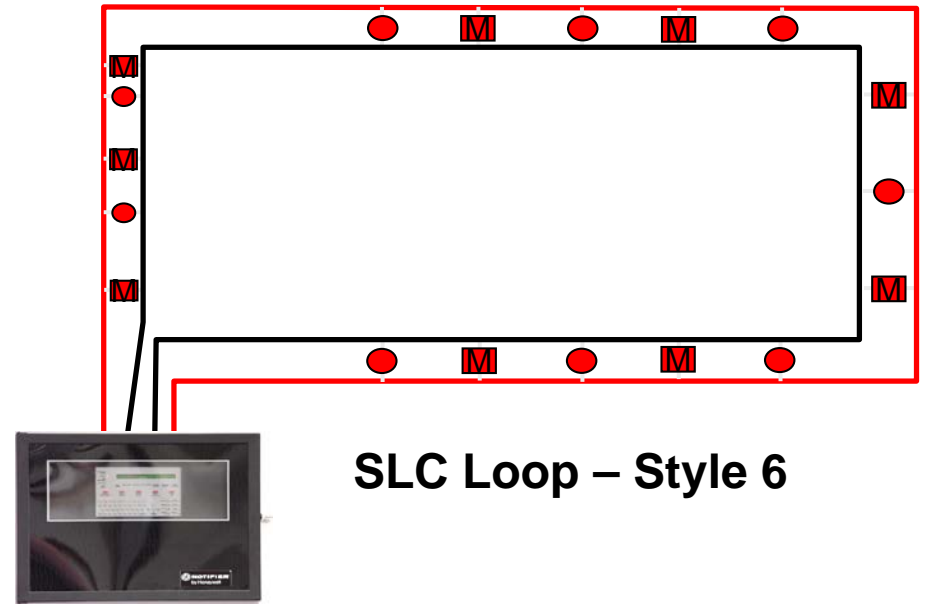
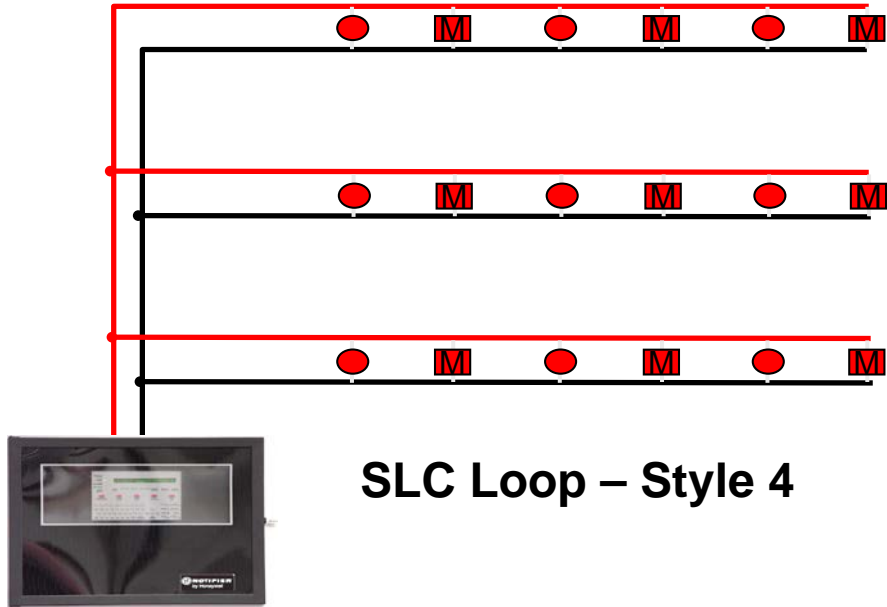
CPU2-3030 Board Diagram



Sample System Options



Notifier System Basics – Types of SLC Wiring



Notifier System Basics – Types of Cables

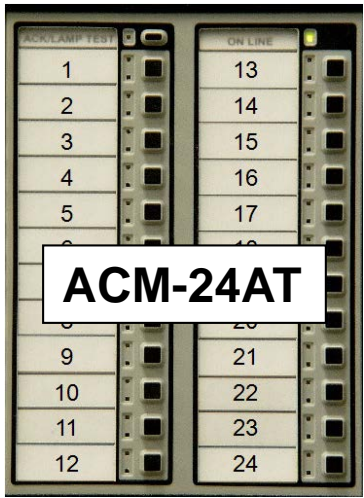
FACP: Wire Type and Limitations	Recommended Max. Distance	Wire Gauge
NFS-320, NFS-320SYS, NFS2-640, LEM-320 on NFS2-640, LCM-320/LEM-320 on NFS-3030/NFS2-3030		
RECOMMENDED: Twisted-unshielded pair, 12 to 18 AWG (3.31 mm ² to 0.82 mm ²). 50 ohms, maximum per length of Style 6 & 7 loops. 50 ohms per branch maximum for Style 4 loop.	12,500 ft. (3,810 m) 9,500 ft. (2,895.6 m) 6,000 ft. (1,828.8 m) 3,700 ft. (1,127.76 m)	12 AWG (3.31 mm ²) 14 AWG (2.08 mm ²) 16 AWG (1.31 mm ²) 18 AWG (0.82 mm ²)
Untwisted, unshielded wire, in conduit or outside of conduit.	5,000 ft. (1,524 m) 3,700 ft. (1,127.76m)	12 to 16 AWG (3.31 mm ² to 1.31 mm ²) 18 AWG (0.82 mm ²)
Twisted, shielded pair Note: • Shields must be isolated from ground. • Shields should be broken at each device.	5,000 ft. (1,524 m) 3,700 ft. (1,127.76m)	12 to 16 AWG (3.31 mm ² to 1.31 mm ²) 18 AWG (0.82 mm ²)
Note: Maximum total capacitance of all SLC wiring (both between conductors and from any conductor to ground) should not exceed 0.5 microfarads.		

Table 2.1 Wiring Recommendations: NFS-320, NFS2-640, NFS-640, NFS2-3030, NFS-3030, LCM-320, LEM-320, LIB-200A, and LIB-400

ACS Annunciators



LDM-32



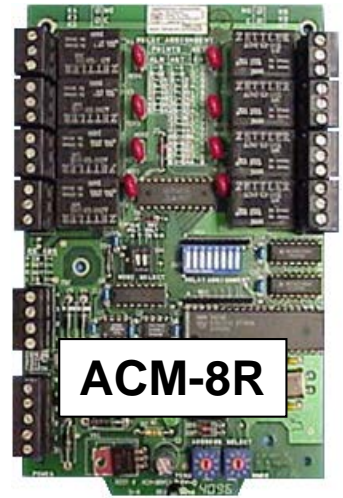
ACM-24AT



ACM-48A



SCS-8



ACM-8R

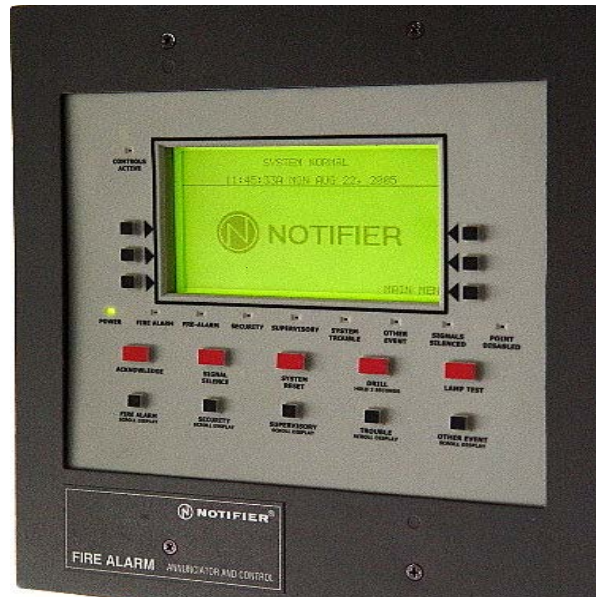
Notifier Repeaters for Addressable Panels (Remote Display)

Local Repeater for
NFS-320E & NFS2-
640E Panels



LCD2-80

Local Repeater for
NFS2-3030 Panel



LCD-160

Network Repeater for
Noti-Fire-Network



NCA-2

Notifier Voice Alarm System - DVC



- **System Features**
 - Eight channels of quality digital audio
 - Five channels of firefighter telephones
 - Expandable via NOTI•FIRE•NET
 - Digital message format eliminates distortion and simplifies changes
 - Up to 1000 message strings
 - 32 minutes of message storage.
- **Typical applications**
 - Hotels
 - Airports
 - Theatres
 - Educational facilities
 - Hospitals

Notifier Voice Alarm System - Amplifiers

DAA2-5025E
DAA2-5070E
DAA2-7525E



DAA2 Series Amplifier

DAX-3525E
DAX-3570E
DAX-5025E
DAX-5070E



DAX Series Amplifier

DS-DB + 1 DS-AMPE = 100 Watts
DS-DB + 2 DS-AMPE = 200 Watts
DS-DB + 3 DS-AMPE = 300 Watts
DS-DB + 4 DS-AMPE = 400 Watts



Notifier Voice Alarm System - Amplifiers

BACKUP DIGITAL AMPLIFIER-BDA



BDA-25 and BDA-70

- Backup Digital Amplifier
 - Add-on option card
 - 25 or 70 V versions
 - Compatible with DAA2 & DAX
 - Backup amplifier operation with DAX
 - Backup or 2-channel option with DAA2 series amplifiers



DAA2 Series Amplifier



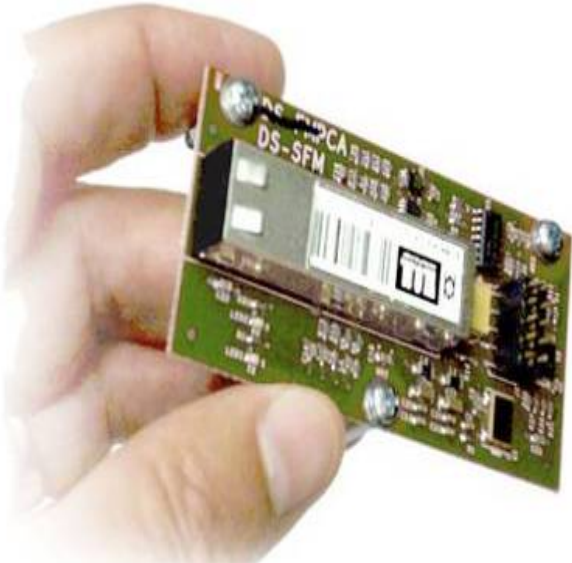
DAX Series Amplifier

Notifier Voice Alarm System - Amplifiers

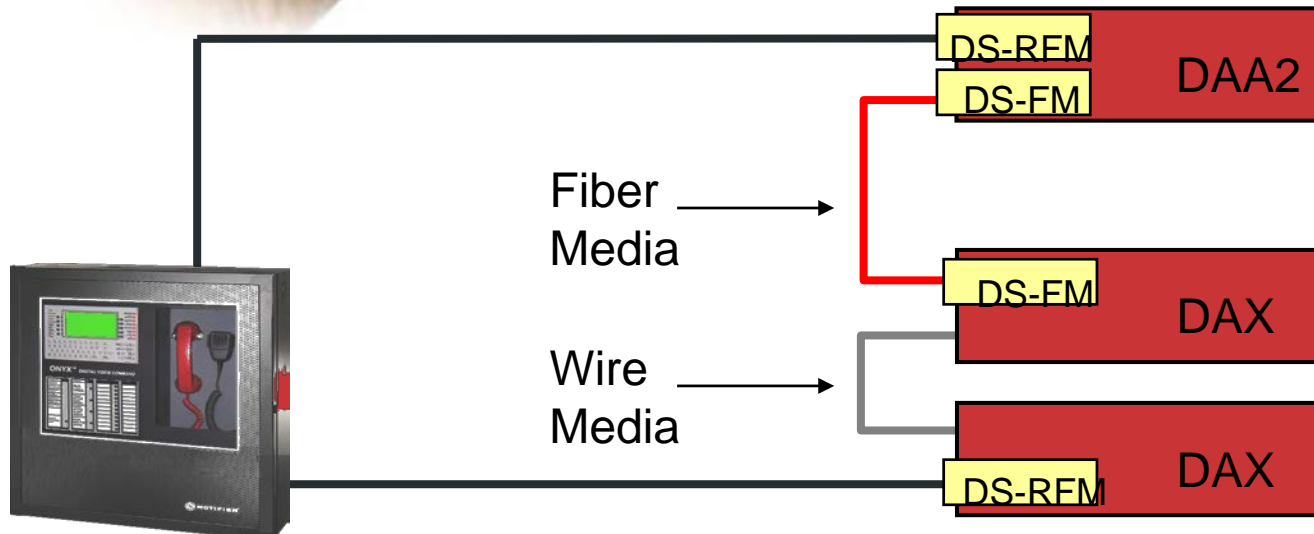
DS-FM

Digital System Fiber Modules

Converts DAX & DAA2 series amplifiers for fiber optic media



- DS-FM – Multi-Mode Fiber
 - 1310 nm (nanometers)
 - LC connectors
- DS-SFM – Single Mode Fiber
 - 1310 nm
 - LC connectors
- DS-RFM – Retrofit Multi-Mode Fiber
 - 850 nm
 - LC connectors
 - Requires ST to LC conversion cable
 - Used to connect to DVC-EM or DAA series amplifiers

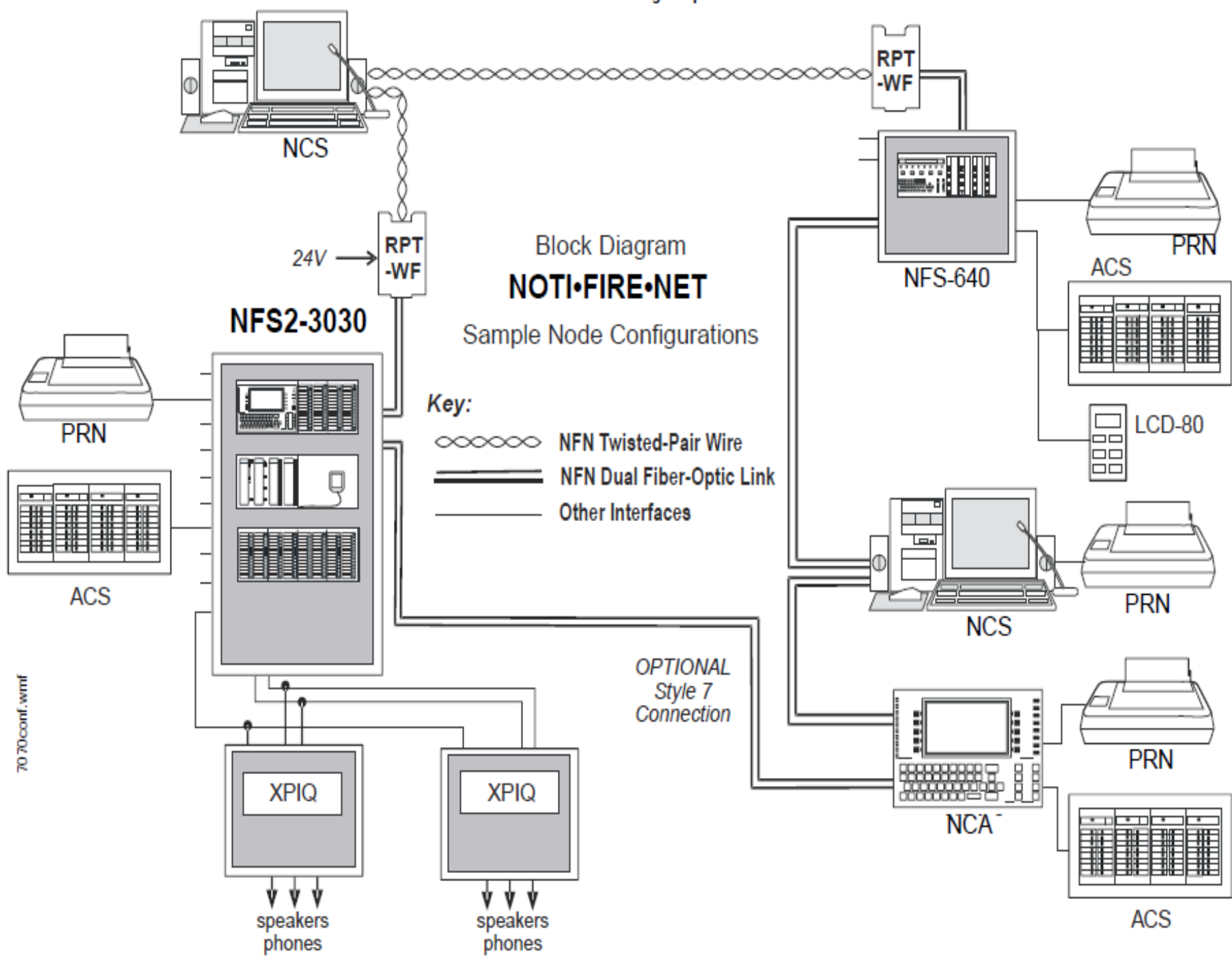


Notifier Voice Alarm System - Amplifiers

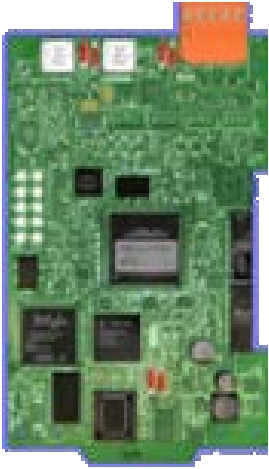
Amplifier Part Code	Voltage RMS	Wattage	BDA Support	Battery Charging	Fiber Support	Mic Input	FFT
DAX-3525E	25	35	Yes	Yes	Yes	No	No
DAX-3570E	70	35	Yes	Yes	Yes	No	No
DAX-5025E	25	50	Yes	No	Yes	No	No
DAX-5070E	70	50	Yes	No	Yes	No	No
DAA2-5025E	25	50	Yes	Yes	Yes	Yes	Yes
DAA2-5070E	70	50	Yes	Yes	Yes	Yes	Yes
DAA2-7525E	25	75	Yes	Yes	Yes	Yes	Yes
DS-DB+DS-AMPE+DS-XF70V	70	100	Yes	No	Yes	No	Yes
DS-DB+DS-AMPE	25	125	Yes	No	Yes	No	Yes

Notifier Voice Alarm System – Speaker Calculation

Sr. No.	Part No.	No. of Address	Wattage & Voltage		No. of Speaker Circuit		FFT	With all type Total Wattage	Maximum No. of Speakers			
			W	V	Class A	Class B			1/4 Watt	1/2 Watt	1 Watt	2 Watt
1	DAX3525E	1	35	25	1	2	No	1120	4480	2240	1120	560
2	DAX5025E	1	50	25	1	2	No	1600	6400	3200	1600	800
3	DAX3570E	1	35	70	1	2	No	1120	4480	2240	1120	560
4	DAX5070E	1	50	70	1	2	No	1600	6400	3200	1600	800
5	DAA2 5025E	1	50	25	2	4	Yes	1600	6400	3200	1600	800
6	DAA2 5070E	1	50	70	2	4	Yes	1600	6400	3200	1600	800
7	DAA2 7525E	1	75	25	2	4	Yes	2400	9600	4800	2400	1200
8	DSDB + 1 DS AMP	2	100	25	--	8	Yes	1600	6400	3200	1600	800
9	DSDB + 2 DS AMP		200	25				3200	12800	6400	3200	1600
10	DSDB + 3 DS AMP		300	25				4800	19200	9600	4800	2400
11	DSDB + 4 DS AMP		400	25				6400	25600	12800	6400	3200
12	For 70V DS-XF-70V	--	100	70	--	8	Yes	1600	6400	3200	1600	800
13			200	70				3200	12800	6400	3200	1600
14			300	70				4800	19200	9600	4800	2400
15			400	70				6400	25600	12800	6400	3200



Notifier Networking



Two Variants of Normal Network Cards

NCM-W (Wire in – Wire Out)

NCM-F (Multimode Fiber In – Multimode Fiber Out)

HS-NCM-Wgrn.jpg



HS-NCM-W

Six Variants of High Speed Network Cards

HS-NCM-W (Wire in – Wire Out)

HS-NCM-MF (Multimode Fiber in - Multimode Fiber Out)

HS-NCM-SF (Single mode in – Single mode Fiber Out)

HS-NCM-WMF (Wire in - Multimode Fiber Out)

HS-NCM-WSF (Wire in - Single Mode Fiber Out)

HS-NCM-MFSF (Multimode Fiber in - Single Mode Fiber Out)

Notifier Panels – Conventional & Releasing

SFP-5UDE & SFP-10UDE



- Five and Ten Programmable IDC's
- Four NAC Out puts
- Three Programmable Relays
- ANN-Bus for connection to option.
 - ✓ N-ANN-80 Remote LCD Annunciator
 - ✓ N-ANN-I/O LED Driver
 - ✓ N-ANN-S/PG Printer Module
 - ✓ N-ANN-RLY Relay Module
 - ✓ N-ANN-LED Annunciator Module
- 80 Character LCD Display.
- History Logs with 256 Events store
- Control Button and LED indication
- Charging Circuit 18 AH
- Refer Device Compatibility list.

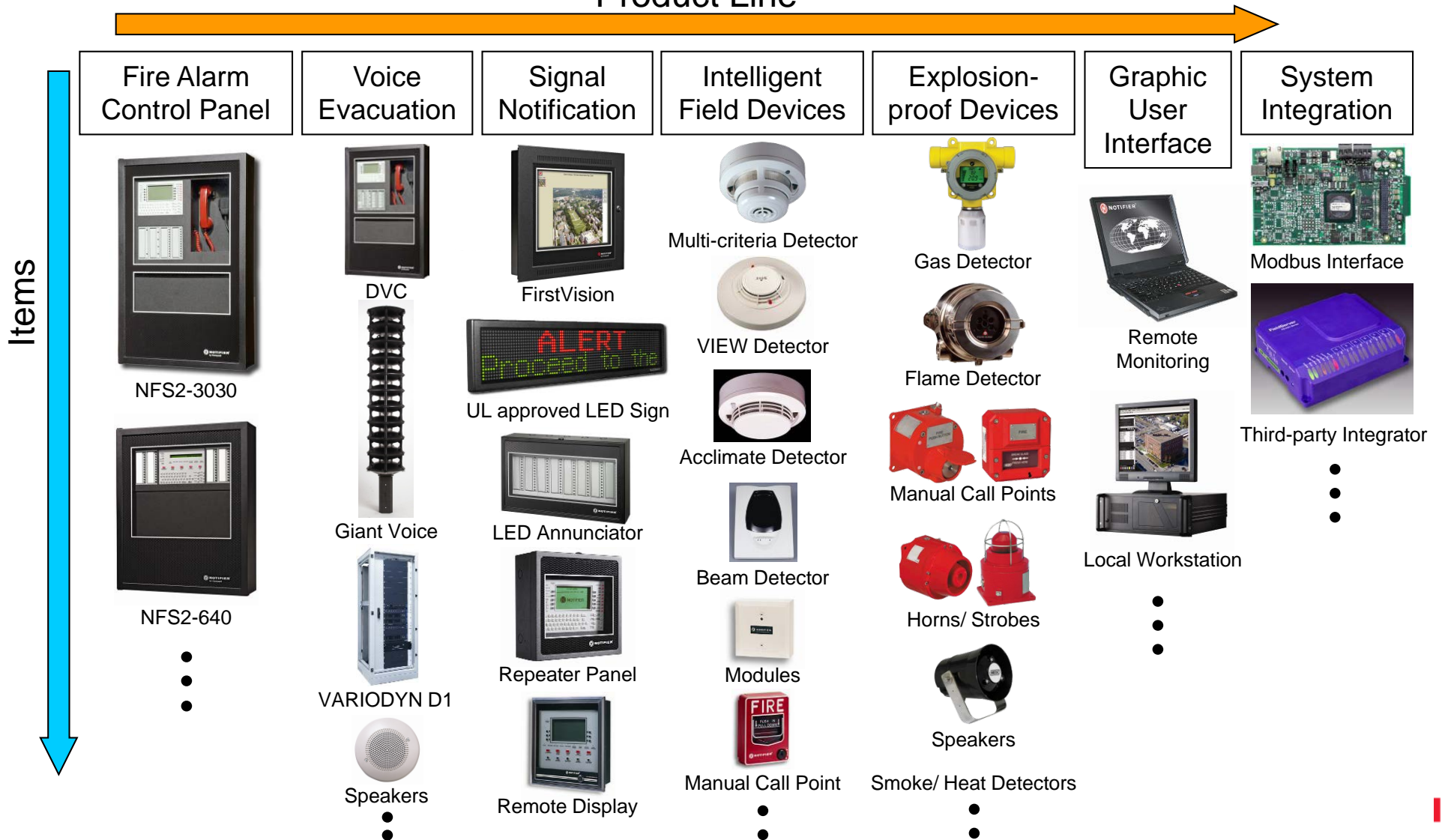
RP-2001E & RP-2002E



- **RP-2001 Pre-action/Deluge Panel**
 - Six zone FACP for single and dual hazards deluge and precaution application.
 - Compatible with system sensor i3 series detector.
 - Ability to program relays for latching or tracking
 - Discharge and Pre-discharge for each of the possible two release circuits
- **RP-2002 Agent Release Panel**
 - Programming Templates expanded from seven to thirteen
 - Ability to program relays for latching or tracking
 - Manual Release/Abort combo zone functionality
 - Discharge and Pre-discharge for each of the possible two release circuits

COMPLETE PRODUCT RANGE

Product Line





Thank You