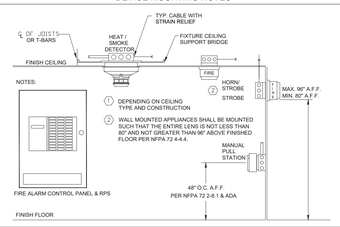
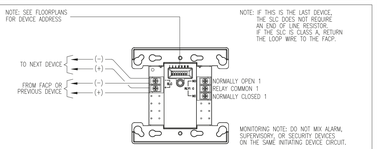
GENERAL NOTES

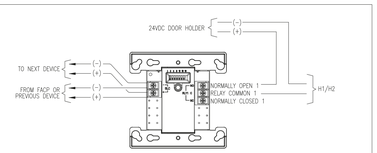
1. ALL FIRE ALARM WIRING MUST BE IN STRICT COMPLIANCE WITH APPLICABLE SECTIONS OF THE NATIONAL ELECTRICAL CODE (ARTICLE 760) AND ALL APPLICABLE NFPA STANDARDS.
2. INSTALLATION MUST COMPLY WITH ALL APPLICABLE FEDERAL, STATE, OR LOCAL LAWS, REGULATIONS, CODES, AND SPECIFICATIONS.
3. ALL INSTALLATION MUST BE APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
4. TO AVOID CONTAMINATION AND DUST ACCUMULATION IN THE SMOKE DETECTORS, IT IS RECOMMENDED THAT THE SMOKE DETECTORS NOT BE INSTALLED UNTIL AFTER CONSTRUCTION IS COMPLETED AND THE SUBJECT AREA HAS BEEN CLEANED. THE SUPPLIER IS NOT RESPONSIBLE FOR DUST ACCUMULATION IN SMOKE DETECTORS AND WILL NOT WARRANTY DEVICES THAT HAVE NOT BEEN PROPERLY MAINTAINED. WHEN DETECTORS ARE INSTALLED, PROTECTIVE COVERS SHALL BE INSTALLED OVER EACH DETECTOR AND REMOVED BY AUTHORIZED SERVICE PERSONNEL.
5. AS INSTRUCTED IN NFPA 70, PROVIDE A SYSTEM GROUND FOR EARTH DETECTION AND LIGHTNING PROTECTION OF THE DEVICES.
6. ALL FIRE ALARM SYSTEM WIRING SHALL BE CLEAR FROM SHORTS, OPENS AND GROUNDS.
7. WHERE CONDUCTORS ARE RUN IN CONDUIT, USE ONLY APPROVED CABLE WITHIN RACEWAYS, PIPES, OR CONDUITS. ALL SHIELDED WIRE MUST BE CONTINUOUS THROUGHOUT CIRCUIT. ALL SHIELDS SHALL BE ISOLATED FROM GROUND, ALL SHIELDS SHALL TERMINATE AT THE FIRE ALARM CONTROL UNIT (FACU) ONLY.
8. CONDUIT AND JUNCTION BOX LOCATIONS ARE DIAGRAMMATIC ONLY, EXACT LOCATIONS MAY VARY DUE TO FIELD CONDITIONS. ACTUAL INSTALLATION LOCATIONS SHALL BE DETERMINED BY THE INSTALLING CONTRACTOR.
9. DO NOT LOCATE SMOKE DETECTORS WITHIN 3 FEET OF SUPPLY AIR VENTS.
10. WIRE RUNS ARE CRITICAL. ANY SIGNIFICANT INCREASE IN LENGTH OF WIRE MAY AFFECT CIRCUIT CONFIGURATIONS.

DEVICE MOUNTING NOTES

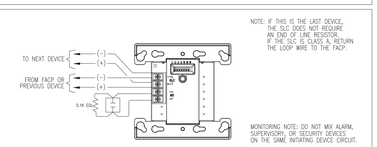




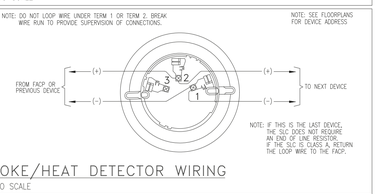
RELAY MODULE WIRING
NOT TO SCALE



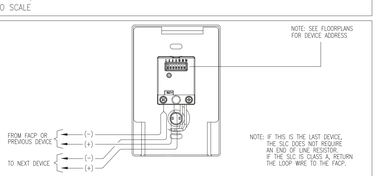
RELAY MOD. WIRING FOR DOOR HOLDER
NOT TO SCALE



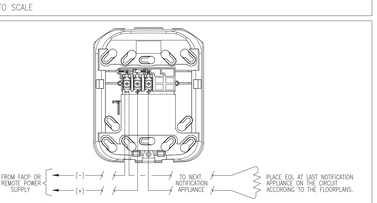
SINGLE MONITOR MODULE WIRING
NOT TO SCALE



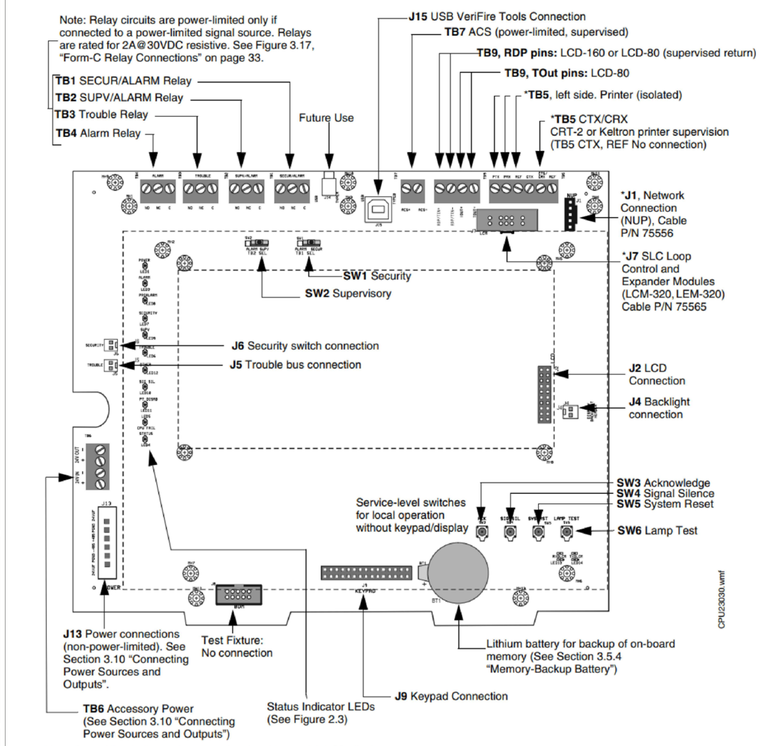
SMOKE/HEAT DETECTOR WIRING
NOT TO SCALE



MANUAL PULL STATION WIRING
NOT TO SCALE



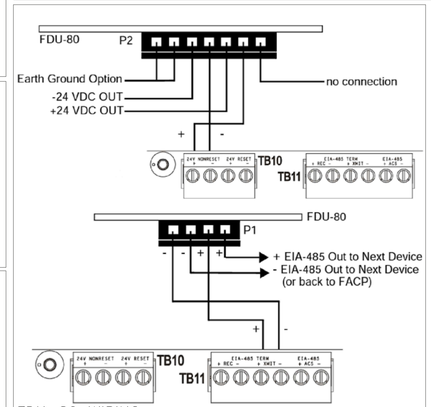
CEILING/WALL MOUNT NOTIF. DEVICE WIRING
NOT TO SCALE



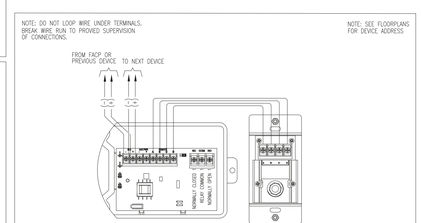
Note: Dotted line indicates location of optional keypad & LCD display

*Circuits marked with an asterisk are supervised by communication loss. See Appendix A, "Electrical Specifications" for details.

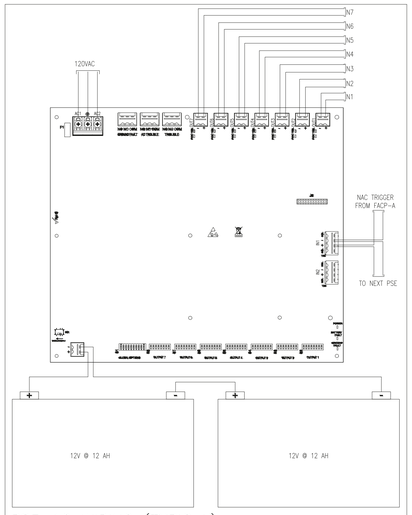
NFS2-3030 WIRING
NOT TO SCALE



FDU-80 WIRING
NOT TO SCALE



DUCT SMOKE DETEC. W/ REMOTE TEST SWITCH
NOT TO SCALE



PSE-10 WIRING (TYPICAL)
NOT TO SCALE

DEVICE LEGEND

SYMBOL	QTY	MANUFACTURER	PART NO	DESCRIPTION
FACP	1	NOTIFIER	NFS2-3030D (DVC)	NFS2-3030D DVC, ADDRESSABLE ASSEMBLY
	1	NOTIFIER	AMPS-24	ADDRESSABLE POWER SUPPLY/BATTERY CHARGER
	1	NOTIFIER	UDACT-2	UNIVERSAL DIGITAL ALARM COMMUNICATOR TRANSMITTER-2
NAC	7	POTTER	PSE-10	10A REMOTE POWER SUPPLY
FAA	2	NOTIFIER	FDU-80	ANNUNCIATOR, TERMINAL MODE, 80-CHARACTER, BACKLIT LCD DISPLAY
DVCC	1	NOTIFIER	DVC-EM	DVC ASSEMBLY
AMP	5	NOTIFIER	AMP CABINET (DAA2-5025) EQBB-4	AMPLIFIER ASSEMBLY - EQBB-B4, EQDR-B4, DAA2-5025, CHS-BH1
WP	26	SYSTEM SENSOR	SPSWK	SPEAKER/STROBE OUTDOOR WALL MOUNT, WHITE
	70	SYSTEM SENSOR	SPSWL	SPEAKER/STROBE WALL MOUNT, WHITE
WP	24	SYSTEM SENSOR	SPSCWK	SPEAKER/STROBE OUTDOOR CEILING MOUNT, WHITE
	144	SYSTEM SENSOR	SPSCWL	SPEAKER/STROBE CEILING MOUNT, WHITE
F	3	NOTIFIER	NBG-12LX	MANUAL PULL STATION. DUAL-ACTION .
AM	55	NOTIFIER	FMM-1	MONITOR MODULE
AM	2	NOTIFIER	FDM-1	DUAL MONITOR MODULE
RM	60	NOTIFIER	FRM-1	RELAY MODULE
D	12	NOTIFIER	DNR W/FSP-951R	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R
D	3	NOTIFIER	DNRW W/FSP-951R	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R, WP
H	15	NOTIFIER	FST-951 W/B300-6	LOW-PROFILE 135°F FIXED THERMAL SENSOR.
S	78	NOTIFIER	FSP-951 W/B300-6	ADDRESSABLE LOW-PROFILE PHOTOELECTRIC SMOKE DETECTOR.

CABLE AND WIRE LEGEND

LABEL	PART NO	AWG	RESISTANCE (Ω/KFT)	DESCRIPTION	TOTAL LENGTH
A	18/4 FPLP (ANN)	18	7.77	ANNUNCIATOR - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED	502'
B	14/2 FPLP (NAC TRIG.)	14	2.6	NAC TRIGGER - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED	257'
D	16/2 FPLP (SLC)	16	4.8	SLC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED	5202'
E	18/4 FPLP (EIA)	18	7.77	EAI - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED	3329'
S	16/2 FPLP (SPK)	16	4.89	SPEAKER - 2 COND. SOLID COPPER FPLP ANALOG SHIELDED	8941'
V	14/2 FPLP (NAC)	14	3.07	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED	10760'

FIRE ALARM SYSTEM

EVENT \ ACTION	TROUBLE SIGNAL @ FIRE ALARM CONTROL PANEL	SUPERVISORY SIGNAL @ FIRE ALARM CONTROL PANEL	ALARM SIGNAL @ FIRE ALARM CONTROL PANEL	ACTIVATE NOTIFICATION DEVICES	GENERAL HVAC SHUTDOWN	LOCAL HVAC SHUTDOWN
SMOKE DETECTOR			●	●	●	
HEAT DETECTOR			●	●	●	
LOCAL DUCT DETECTOR		●				●
MANUAL PULL STATION			●	●	●	
WATERFLOW SWITCH			●	●	●	
TAMPER SWITCH		●				
PIV SWITCH		●				
FACP AC POWER FAILURE	●					
SYSTEM LOW BATTERY	●					
OPEN CIRCUIT	●					
GROUND FAULT	●					
NOTIFICATION APPLIANCE CIRCUIT SHORT	●					
STAIR SMOKE DETECTOR IN APPROVED LOCATION						
2X ATRIUM SMOKE DETECTORS						
SPRINKLER WATER-FLOW						
MANUAL ACTIVATION AT FFSCP						
PRESSURIZATION FAN SMOKE DETECTOR						

NOTE: ALL SIGNALS WILL BE SENT TO A CENTRAL STATION

3

AMP-1 S1 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	0.72
Min. Operational Voltage:	16	End Of Line Voltage:	24.28
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	2.87 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.19
Total Circuit Length (Ft):	385	Spare Current (A):	
Total Circuit Resistance (Ω):	3.769768	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSWL	Speaker/Strobe Wall Mount, White	12	0.01	0.12
		SPSCWL	Speaker/Strobe Ceiling Mount, White	7	0.01	0.07

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-1 S2 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	0.51
Min. Operational Voltage:	16	End Of Line Voltage:	24.49
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	2.04 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.18
Total Circuit Length (Ft):	289	Spare Current (A):	
Total Circuit Resistance (Ω):	2.827955	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White	7	0.01	0.07
		SPSWL	Speaker/Strobe Wall Mount, White	3	0.01	0.03
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White	2	0.04	0.08

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-1 S3 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	0.19
Min. Operational Voltage:	16	End Of Line Voltage:	24.81
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	0.76 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.12
Total Circuit Length (Ft):	162	Spare Current (A):	
Total Circuit Resistance (Ω):	1.583145	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSWL	Speaker/Strobe Wall Mount, White	4	0.01	0.04
	WP	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White	1	0.04	0.04
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White	1	0.04	0.04

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-1 S4 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	0.76
Min. Operational Voltage:	16	End Of Line Voltage:	24.24
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	3.05 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.19
Total Circuit Length (Ft):	410	Spare Current (A):	
Total Circuit Resistance (Ω):	4.008644	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSWL	Speaker/Strobe Wall Mount, White	2	0.01	0.02
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White	1	0.01	0.01
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White	2	0.04	0.08
	WP	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White	2	0.04	0.08

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-4 S13 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	1.27
Min. Operational Voltage:	16	End Of Line Voltage:	23.73
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	5.07 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.2
Total Circuit Length (Ft):	648	Spare Current (A):	
Total Circuit Resistance (Ω):	6.336871	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSWL	Speaker/Strobe Wall Mount, White	7	0.01	0.07
		SPSCWL	Speaker/Strobe Ceiling Mount, White	13	0.01	0.13

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-4 S14 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	0.87
Min. Operational Voltage:	16	End Of Line Voltage:	24.13
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	3.50 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.17
Total Circuit Length (Ft):	526	Spare Current (A):	
Total Circuit Resistance (Ω):	5.140898	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSWL	Speaker/Strobe Wall Mount, White	3	0.01	0.03
		SPSCWL	Speaker/Strobe Ceiling Mount, White	14	0.01	0.14

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-4 S15 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	0.79
Min. Operational Voltage:	16	End Of Line Voltage:	24.21
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	3.16 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.17
Total Circuit Length (Ft):	475	Spare Current (A):	
Total Circuit Resistance (Ω):	4.64793	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White	15	0.01	0.15
		SPSWL	Speaker/Strobe Wall Mount, White	2	0.01	0.02

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-4 S16 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	1.26
Min. Operational Voltage:	16	End Of Line Voltage:	23.74
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	5.06 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.18
Total Circuit Length (Ft):	718	Spare Current (A):	
Total Circuit Resistance (Ω):	7.02225	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSWL	Speaker/Strobe Wall Mount, White	7	0.01	0.07
		SPSCWL	Speaker/Strobe Ceiling Mount, White	11	0.01	0.11

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-2 N10 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	0.61
Min. Operational Voltage:	16	End Of Line Voltage:	19.79
Max. Circuit Current (A):	3	Voltage Drop Percent:	2.98 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.63
Total Circuit Length (Ft):	157	Spare Current (A):	2.37
Total Circuit Resistance (Ω):	0.963996	Spare Current (A) Percent:	79.00 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
	WP	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	3	0.21	0.63

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-2 N11 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.55
Min. Operational Voltage:	16	End Of Line Voltage:	18.85
Max. Circuit Current (A):	3	Voltage Drop Percent:	7.58 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.84
Total Circuit Length (Ft):	300	Spare Current (A):	2.16
Total Circuit Resistance (Ω):	1.841491	Spare Current (A) Percent:	72.00 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
	WP	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	1	0.21	0.21
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 115cd	3	0.21	0.63

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-2 N8 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.2
Min. Operational Voltage:	16	End Of Line Voltage:	19.2
Max. Circuit Current (A):	3	Voltage Drop Percent:	5.87 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.855
Total Circuit Length (Ft):	228	Spare Current (A):	2.145
Total Circuit Resistance (Ω):	1.401433	Spare Current (A) Percent:	71.50 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSWL	Speaker/Strobe Wall Mount, White 15cd	3	0.043	0.129
		SPSWL	Speaker/Strobe Wall Mount, White 110cd	1	0.148	0.148
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 75cd	1	0.158	0.158
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 115cd	2	0.21	0.42

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-2 N9 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.68
Min. Operational Voltage:	16	End Of Line Voltage:	18.72
Max. Circuit Current (A):	3	Voltage Drop Percent:	8.23 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.912
Total Circuit Length (Ft):	300	Spare Current (A):	2.088
Total Circuit Resistance (Ω):	1.840916	Spare Current (A) Percent:	69.60 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 30cd	1	0.094	0.094
	WP	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 30cd	2	0.094	0.188
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 115cd	1	0.21	0.21
	WP	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	2	0.21	0.42

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

FACP-1 AUX-1 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	24	Max. Voltage Drop:	0.02
Min. Operational Voltage:	16	End Of Line Voltage:	23.98
Max. Circuit Current (A):	5	Voltage Drop Percent:	0.08 %
Wire Resistance (Ω/kFt):	2.6	Total Circuit Current (A):	0.014
Total Circuit Length (Ft):	277	Spare Current (A):	4.986
Total Circuit Resistance (Ω):	1.440286	Spare Current (A) Percent:	99.72 %

Circuit Wiring Properties: 'B' 14/2 FPLP (NAC TRIG.) 14 AWG, NAC TRIGGER - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
	NAC	PSE-10	10A Remote Power Supply	7	0.002	0.014

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-2 S5 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	0.95
Min. Operational Voltage:	16	End Of Line Voltage:	24.05
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	3.80 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.28
Total Circuit Length (Ft):	347	Spare Current (A):	
Total Circuit Resistance (Ω):	3.391406	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSWL	Speaker/Strobe Wall Mount, White	4	0.01	0.04
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White	6	0.04	0.24

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-2 S6 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	1.98
Min. Operational Voltage:	16	End Of Line Voltage:	23.02
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	7.92 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.4
Total Circuit Length (Ft):	506	Spare Current (A):	
Total Circuit Resistance (Ω):	4.950554	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White	2	0.04	0.08
	WP	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White	8	0.04	0.32

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-5 S17 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	2.03
Min. Operational Voltage:	16	End Of Line Voltage:	22.97
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	8.10 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.25
Total Circuit Length (Ft):	828	Spare Current (A):	
Total Circuit Resistance (Ω):	8.101334	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White	20	0.01	0.2
		SPSWL	Speaker/Strobe Wall Mount, White	5	0.01	0.05

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-5 S18 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	0.49
Min. Operational Voltage:	16	End Of Line Voltage:	24.51
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	1.96 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.2
Total Circuit Length (Ft):	251	Spare Current (A):	
Total Circuit Resistance (Ω):	2.455168	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White	5	0.04	0.2

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-5 S19 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	0.57
Min. Operational Voltage:	16	End Of Line Voltage:	24.43
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	2.28 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.15
Total Circuit Length (Ft):	389	Spare Current (A):	
Total Circuit Resistance (Ω):	3.800505	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSWL	Speaker/Strobe Wall Mount, White	2	0.01	0.02
		SPSCWL	Speaker/Strobe Ceiling Mount, White	12	0.01	0.12
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White	1	0.01	0.01

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-3 N15 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	2.04
Min. Operational Voltage:	16	End Of Line Voltage:	18.36
Max. Circuit Current (A):	3	Voltage Drop Percent:	10.01 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	1.139
Total Circuit Length (Ft):	292	Spare Current (A):	1.861
Total Circuit Resistance (Ω):	1.793561	Spare Current (A) Percent:	62.03 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	1	0.041	0.041
		SPSWL	Speaker/Strobe Wall Mount, White 15cd	4	0.043	0.172
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 30cd	1	0.094	0.094
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 110cd	1	0.202	0.202
	WP	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	3	0.21	0.63

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-3 N16 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	2
Min. Operational Voltage:	16	End Of Line Voltage:	18.4
Max. Circuit Current (A):	3	Voltage Drop Percent:	9.82 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.746
Total Circuit Length (Ft):	437	Spare Current (A):	2.254
Total Circuit Resistance (Ω):	2.686171	Spare Current (A) Percent:	75.13 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	7	0.041	0.287
		SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	1	0.063	0.063
		SPSWL	Speaker/Strobe Wall Mount, White 30cd	1	0.063	0.063
		SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	3	0.111	0.333

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-3 N17 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.59
Min. Operational Voltage:	16	End Of Line Voltage:	18.81
Max. Circuit Current (A):	3	Voltage Drop Percent:	7.78 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.934
Total Circuit Length (Ft):	277	Spare Current (A):	2.066
Total Circuit Resistance (Ω):	1.699466	Spare Current (A) Percent:	68.87 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 30cd	1	0.094	0.094
	WP	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	3	0.21	0.63
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 115cd	1	0.21	0.21

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-3 N18 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.17
Min. Operational Voltage:	16	End Of Line Voltage:	19.23
Max. Circuit Current (A):	3	Voltage Drop Percent:	5.74 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.649
Total Circuit Length (Ft):	294	Spare Current (A):	2.351
Total Circuit Resistance (Ω):	1.802689	Spare Current (A) Percent:	78.37 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	3	0.041	0.123
		SPSWL	Speaker/Strobe Wall Mount, White 15cd	1	0.043	0.043
		SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	1	0.063	0.063
	WP	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	2	0.21	0.42

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-6 N36 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.13
Min. Operational Voltage:	16	End Of Line Voltage:	19.27
Max. Circuit Current (A):	3	Voltage Drop Percent:	5.53 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.627
Total Circuit Length (Ft):	293	Spare Current (A):	2.373
Total Circuit Resistance (Ω):	1.799898	Spare Current (A) Percent:	79.10 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	2	0.041	0.082
		SPSWL	Speaker/Strobe Wall Mount, White 15cd	2	0.043	0.086
		SPSWL	Speaker/Strobe Wall Mount, White 30cd	1	0.063	0.063
		SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	1	0.063	0.063
		SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	3	0.111	0.333

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-6 N37 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.37
Min. Operational Voltage:	16	End Of Line Voltage:	19.03
Max. Circuit Current (A):	3	Voltage Drop Percent:	6.72 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.554
Total Circuit Length (Ft):	403	Spare Current (A):	2.446
Total Circuit Resistance (Ω):	2.475219	Spare Current (A) Percent:	81.53 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	4	0.041	0.164
		SPSWL	Speaker/Strobe Wall Mount, White 15cd	4	0.043	0.172
		SPSWL	Speaker/Strobe Wall Mount, White 75cd	1	0.107	0.107
		SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	1	0.111	0.111

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-6 N38 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.54
Min. Operational Voltage:	16	End Of Line Voltage:	18.86
Max. Circuit Current (A):	3	Voltage Drop Percent:	7.54 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.566
Total Circuit Length (Ft):	443	Spare Current (A):	2.434
Total Circuit Resistance (Ω):	2.718653	Spare Current (A) Percent:	81.13 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	7	0.041	0.287
		SPSWL	Speaker/Strobe Wall Mount, White 75cd	1	0.107	0.107
		SPSWL	Speaker/Strobe Wall Mount, White 135cd	1	0.172	0.172

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-3 S10 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	1.87
Min. Operational Voltage:	16	End Of Line Voltage:	23.13
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	7.46 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.29
Total Circuit Length (Ft):	658	Spare Current (A):	
Total Circuit Resistance (Ω):	6.434164	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSWL	Speaker/Strobe Wall Mount, White	8	0.01	0.08
		SPSCWL	Speaker/Strobe Ceiling Mount, White	21	0.01	0.21

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-3 S11 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	1.14
Min. Operational Voltage:	16	End Of Line Voltage:	23.86
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	4.57 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.2
Total Circuit Length (Ft):	584	Spare Current (A):	
Total Circuit Resistance (Ω):	5.715091	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White	8	0.01	0.08
		SPSWL	Speaker/Strobe Wall Mount, White	4	0.01	0.04
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White	2	0.04	0.08

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-3 S12 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	1.21
Min. Operational Voltage:	16	End Of Line Voltage:	23.79
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	4.84 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.3
Total Circuit Length (Ft):	413	Spare Current (A):	
Total Circuit Resistance (Ω):	4.035674	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSWL	Speaker/Strobe Wall Mount, White	2	0.01	0.02
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White	3	0.04	0.12
	WP	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White	4	0.04	0.16

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

AMP-3 S9 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. Voltage Drop:	2.99
Min. Operational Voltage:	16	End Of Line Voltage:	22.01
Max. Circuit Current (A):	n/a	Voltage Drop Percent:	11.96 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Current (A):	0.4
Total Circuit Length (Ft):	765	Spare Current (A):	
Total Circuit Resistance (Ω):	7.477433	Spare Current (A) Percent:	

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSWL	Speaker/Strobe Wall Mount, White	4	0.01	0.04
		SPSCWL	Speaker/Strobe Ceiling Mount, White	16	0.01	0.16
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White	1	0.04	0.04
	WP	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White	4	0.04	0.16

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-1 N1 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	2.13
Min. Operational Voltage:	16	End Of Line Voltage:	18.27
Max. Circuit Current (A):	3	Voltage Drop Percent:	10.46 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.954
Total Circuit Length (Ft):	364	Spare Current (A):	2.046
Total Circuit Resistance (Ω):	2.235795	Spare Current (A) Percent:	68.20 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	1	0.041	0.041
		SPSWL	Speaker/Strobe Wall Mount, White 15cd	6	0.043	0.258
		SPSWL	Speaker/Strobe Wall Mount, White 30cd	5	0.063	0.315
		SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	2	0.063	0.126
		SPSWL	Speaker/Strobe Wall Mount, White 75cd	2	0.107	0.214

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-1 N2 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.76
Min. Operational Voltage:	16	End Of Line Voltage:	18.64
Max. Circuit Current (A):	3	Voltage Drop Percent:	8.61 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.888
Total Circuit Length (Ft):	322	Spare Current (A):	2.112
Total Circuit Resistance (Ω):	1.978635	Spare Current (A) Percent:	70.40 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	11	0.041	0.451
		SPSWL	Speaker/Strobe Wall Mount, White 15cd	3	0.043	0.129
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 30cd	1	0.094	0.094
		SPSWL	Speaker/Strobe Wall Mount, White 75cd	2	0.107	0.214

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-1 N3 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	2.32
Min. Operational Voltage:	16	End Of Line Voltage:	18.08
Max. Circuit Current (A):	3	Voltage Drop Percent:	11.37 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.926
Total Circuit Length (Ft):	408	Spare Current (A):	2.074
Total Circuit Resistance (Ω):	2.504202	Spare Current (A) Percent:	69.13 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 30cd	1	0.094	0.094
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 110cd	1	0.202	0.202
	WP	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	2	0.21	0.42
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 115cd	1	0.21	0.21

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-1 N4 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.97
Min. Operational Voltage:	16	End Of Line Voltage:	18.43
Max. Circuit Current (A):	3	Voltage Drop Percent:	9.65 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	1.05
Total Circuit Length (Ft):	305	Spare Current (A):	1.95
Total Circuit Resistance (Ω):	1.874127	Spare Current (A) Percent:	65.00 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
	WP	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	5	0.21	1.05

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-1 N5 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.46
Min. Operational Voltage:	16	End Of Line Voltage:	18.94
Max. Circuit Current (A):	3	Voltage Drop Percent:	7.16 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.6585
Total Circuit Length (Ft):	362	Spare Current (A):	2.3415
Total Circuit Resistance (Ω):	2.219625	Spare Current (A) Percent:	78.05 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSWL	Speaker/Strobe Wall Mount, White 15cd	2	0.043	0.086
	F	SSM24-8	Alarm Bell 8" 24VDC, red	1	0.0535	0.0535
		SPSWL	Speaker/Strobe Wall Mount, White 75cd	1	0.107	0.107
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 110cd	1	0.202	0.202
	WP	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	1	0.21	0.21

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-1 N6 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	0.09
Min. Operational Voltage:	16	End Of Line Voltage:	20.31
Max. Circuit Current (A):	3	Voltage Drop Percent:	0.42 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.202
Total Circuit Length (Ft):	69	Spare Current (A):	2.798
Total Circuit Resistance (Ω):	0.424453	Spare Current (A) Percent:	93.27 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 110cd	1	0.202	0.202

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-6 N39 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.25
Min. Operational Voltage:	16	End Of Line Voltage:	19.15
Max. Circuit Current (A):	3	Voltage Drop Percent:	6.12 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.678
Total Circuit Length (Ft):	300	Spare Current (A):	2.322
Total Circuit Resistance (Ω):	1.84238	Spare Current (A) Percent:	77.40 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	3	0.041	0.123
		SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	5	0.111	0.555

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-5 N32 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	0.74
Min. Operational Voltage:	16	End Of Line Voltage:	19.66
Max. Circuit Current (A):	3	Voltage Drop Percent:	3.62 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.441
Total Circuit Length (Ft):	273	Spare Current (A):	2.559
Total Circuit Resistance (Ω):	1.676511	Spare Current (A) Percent:	85.30 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	2	0.041	0.082
		SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	3	0.063	0.189
		SPSWL	Speaker/Strobe Wall Mount, White 30cd	1	0.063	0.063
		SPSWL	Speaker/Strobe Wall Mount, White 75cd	1	0.107	0.107

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-4 N22 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.76
Min. Operational Voltage:	16	End Of Line Voltage:	18.64
Max. Circuit Current (A):	3	Voltage Drop Percent:	8.64 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.9
Total Circuit Length (Ft):	319	Spare Current (A):	2.1
Total Circuit Resistance (Ω):	1.958909	Spare Current (A) Percent:	70.00 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	3	0.041	0.123
		SPSWL	Speaker/Strobe Wall Mount, White 15cd	3	0.043	0.129
		SPSWL	Speaker/Strobe Wall Mount, White 30cd	1	0.063	0.063
		SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	4	0.063	0.252
		SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	3	0.111	0.333

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-4 N23 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	2.15
Min. Operational Voltage:	16	End Of Line Voltage:	18.25
Max. Circuit Current (A):	3	Voltage Drop Percent:	10.56 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.841
Total Circuit Length (Ft):	417	Spare Current (A):	2.159
Total Circuit Resistance (Ω):	2.561863	Spare Current (A) Percent:	71.97 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	4	0.041	0.164
		SPSWL	Speaker/Strobe Wall Mount, White 30cd	2	0.063	0.126
		SPSWL	Speaker/Strobe Wall Mount, White 75cd	1	0.107	0.107
		SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	4	0.111	0.444

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-4 N24 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.65
Min. Operational Voltage:	16	End Of Line Voltage:	18.75
Max. Circuit Current (A):	3	Voltage Drop Percent:	8.07 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.91
Total Circuit Length (Ft):	295	Spare Current (A):	2.09
Total Circuit Resistance (Ω):	1.809738	Spare Current (A) Percent:	69.67 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	4	0.041	0.164
		SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	1	0.063	0.063
		SPSWL	Speaker/Strobe Wall Mount, White 75cd	1	0.107	0.107
		SPSWL	Speaker/Strobe Wall Mount, White 135cd	1	0.172	0.172
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 110cd	2	0.202	0.404

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-4 N25 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	0.81
Min. Operational Voltage:	16	End Of Line Voltage:	19.59
Max. Circuit Current (A):	3	Voltage Drop Percent:	3.99 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.483
Total Circuit Length (Ft):	274	Spare Current (A):	2.517
Total Circuit Resistance (Ω):	1.68528	Spare Current (A) Percent:	83.90 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	4	0.041	0.164
		SPSWL	Speaker/Strobe Wall Mount, White 15cd	2	0.043	0.086
		SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	2	0.063	0.126
		SPSWL	Speaker/Strobe Wall Mount, White 75cd	1	0.107	0.107

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-7 N43 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	3.25
Min. Operational Voltage:	16	End Of Line Voltage:	17.15
Max. Circuit Current (A):	3	Voltage Drop Percent:	15.92 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.76
Total Circuit Length (Ft):	696	Spare Current (A):	2.24
Total Circuit Resistance (Ω):	4.272993	Spare Current (A) Percent:	74.67 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	9	0.041	0.369
		SPSWL	Speaker/Strobe Wall Mount, White 15cd	1	0.043	0.043
		SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	2	0.063	0.126
		SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	2	0.111	0.222

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-7 N44 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.42
Min. Operational Voltage:	16	End Of Line Voltage:	18.98
Max. Circuit Current (A):	3	Voltage Drop Percent:	6.98 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.692
Total Circuit Length (Ft):	335	Spare Current (A):	2.308
Total Circuit Resistance (Ω):	2.056969	Spare Current (A) Percent:	76.93 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	6	0.041	0.246
		SPSWL	Speaker/Strobe Wall Mount, White 15cd	1	0.043	0.043
		SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	1	0.063	0.063
		SPSWL	Speaker/Strobe Wall Mount, White 30cd	2	0.063	0.126
		SPSWL	Speaker/Strobe Wall Mount, White 75cd	2	0.107	0.214

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-7 N45 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.7
Min. Operational Voltage:	16	End Of Line Voltage:	18.7
Max. Circuit Current (A):	3	Voltage Drop Percent:	8.31 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.715
Total Circuit Length (Ft):	386	Spare Current (A):	2.285
Total Circuit Resistance (Ω):	2.370806	Spare Current (A) Percent:	76.17 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	9	0.041	0.369
		SPSWL	Speaker/Strobe Wall Mount, White 15cd	1	0.043	0.043
		SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	2	0.063	0.126
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 15cd	1	0.066	0.066
		SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	1	0.111	0.111

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-7 N46 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.15
Min. Operational Voltage:	16	End Of Line Voltage:	19.25
Max. Circuit Current (A):	3	Voltage Drop Percent:	5.63 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	1.05
Total Circuit Length (Ft):	178	Spare Current (A):	1.95
Total Circuit Resistance (Ω):	1.094778	Spare Current (A) Percent:	65.00 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
	WP	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 115cd	5	0.21	1.05

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-5 N29 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.43
Min. Operational Voltage:	16	End Of Line Voltage:	18.97
Max. Circuit Current (A):	3	Voltage Drop Percent:	7.02 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.731
Total Circuit Length (Ft):	319	Spare Current (A):	2.269
Total Circuit Resistance (Ω):	1.958739	Spare Current (A) Percent:	75.63 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	3	0.041	0.123
		SPSWL	Speaker/Strobe Wall Mount, White 15cd	2	0.043	0.086
		SPSWL	Speaker/Strobe Wall Mount, White 30cd	1	0.063	0.063
		SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	2	0.063	0.126
		SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	3	0.111	0.333

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-5 N30 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.7
Min. Operational Voltage:	16	End Of Line Voltage:	18.7
Max. Circuit Current (A):	3	Voltage Drop Percent:	8.34 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.679
Total Circuit Length (Ft):	408	Spare Current (A):	2.321
Total Circuit Resistance (Ω):	2.505799	Spare Current (A) Percent:	77.37 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	5	0.041	0.205
		SPSWL	Speaker/Strobe Wall Mount, White 15cd	2	0.043	0.086
		SPSWL	Speaker/Strobe Wall Mount, White 30cd	1	0.063	0.063
		SPSWL	Speaker/Strobe Wall Mount, White 75cd	2	0.107	0.214
		SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	1	0.111	0.111

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

BPS-5 N31 LUMP SUM REPORT

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	20.4	Max. Voltage Drop:	1.25
Min. Operational Voltage:	16	End Of Line Voltage:	19.15
Max. Circuit Current (A):	3	Voltage Drop Percent:	6.15 %
Wire Resistance (Ω/kFt):	3.07	Total Circuit Current (A):	0.678
Total Circuit Length (Ft):	301	Spare Current (A):	2.322
Total Circuit Resistance (Ω):	1.849152	Spare Current (A) Percent:	77.40 %

Circuit Wiring Properties: 'V' 14/2 FPLP (NAC) 14 AWG, NAC - 2 Cond. Solid Copper FPLP Analog Unshielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

DEVICE TOTALS	Symbol	Part No.	Description	Qty.	Device Current (A)	Total Current (A)
		SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	3	0.041	0.123
		SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	5	0.111	0.555

Calculation Methods:
Total Resistance (Ω) = Wire Resistance (Ω/Ft) x 2 x Total Circuit Length (Ft)
Total Voltage Drop = Total Resistance (Ω) x Total Circuit Current (A)

1	2	3	4	5	6	7	8	9	10	11	12

A

B

C

D

E

F

G

PANEL BPS-1 (PSE-10) BATTERY CALCULATION
(SECONDARY POWER SOURCE REQUIREMENTS)

PANEL POWER SUPPLY MAX CURRENT = 10A — TOTAL USED CAPACITY (IN ALARM) = 4.8635A (48.64 %)

PANEL COMPONENTS	QTY	PART NO.	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	TOTAL
	1	PSE-10 MAIN BOARD	PSE-10 MAIN BOARD	0.156	0.156	0.185	0.185

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
BPS-1•N1		1	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.041
		2	SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	0	0	0.063	0.126
		6	SPSWL	Speaker/Strobe Wall Mount, White 15cd	0	0	0.043	0.258
		5	SPSWL	Speaker/Strobe Wall Mount, White 30cd	0	0	0.063	0.315
		2	SPSWL	Speaker/Strobe Wall Mount, White 75cd	0	0	0.107	0.214
BPS-1•N2		11	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.451
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 30cd	0	0	0.094	0.094
		3	SPSWL	Speaker/Strobe Wall Mount, White 15cd	0	0	0.043	0.129
		2	SPSWL	Speaker/Strobe Wall Mount, White 75cd	0	0	0.107	0.214
BPS-1•N3	WP	2	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	0	0	0.21	0.42
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 30cd	0	0	0.094	0.094
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 110cd	0	0	0.202	0.202
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 115cd	0	0	0.21	0.21
BPS-1•N4	WP	5	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	0	0	0.21	1.05
BPS-1•N5	WP	1	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	0	0	0.21	0.21
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 110cd	0	0	0.202	0.202
		2	SPSWL	Speaker/Strobe Wall Mount, White 15cd	0	0	0.043	0.086
		1	SPSWL	Speaker/Strobe Wall Mount, White 75cd	0	0	0.107	0.107
	F	1	SSM24-8	Alarm Bell 8" 24VDC, red	0	0	0.0535	0.0535
BPS-1•N6	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 110cd	0	0	0.202	0.202
					TOTAL STANDBY (A)	0.156	TOTAL ALARM (A)	4.8635

REQUIRED STANDBY TIME = 24 HOURS
REQUIRED ALARM TIME = 5 MINUTES

SECONDARY STANDBY LOAD (A)	0.156	24	3.74
SECONDARY ALARM LOAD (A)	4.8635	0.08	0.41
STANDBY AND ALARM SUBTOTAL (AMP HOURS)		4.15	
DERATING FACTOR		1.2	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		4.98	

PROVIDE (2) 12V 7AH BATTERIES

PANEL BPS-4 (PSE-10) BATTERY CALCULATION
(SECONDARY POWER SOURCE REQUIREMENTS)

PANEL POWER SUPPLY MAX CURRENT = 10A — TOTAL USED CAPACITY (IN ALARM) = 3.319A (33.19 %)

PANEL COMPONENTS	QTY	PART NO.	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	TOTAL
	1	PSE-10 MAIN BOARD	PSE-10 MAIN BOARD	0.156	0.156	0.185	0.185

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
BPS-4•N22		3	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.123
		4	SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	0	0	0.063	0.252
		3	SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	0	0	0.111	0.333
		3	SPSWL	Speaker/Strobe Wall Mount, White 15cd	0	0	0.043	0.129
		1	SPSWL	Speaker/Strobe Wall Mount, White 30cd	0	0	0.063	0.063
BPS-4•N23		4	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.164
		4	SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	0	0	0.111	0.444
		2	SPSWL	Speaker/Strobe Wall Mount, White 30cd	0	0	0.063	0.126
		1	SPSWL	Speaker/Strobe Wall Mount, White 75cd	0	0	0.107	0.107
BPS-4•N24		4	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.164
		1	SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	0	0	0.063	0.063
	WP	2	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 110cd	0	0	0.202	0.404
		1	SPSWL	Speaker/Strobe Wall Mount, White 75cd	0	0	0.107	0.107
		1	SPSWL	Speaker/Strobe Wall Mount, White 135cd	0	0	0.172	0.172
BPS-4•N25		4	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.164
		2	SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	0	0	0.063	0.126
		2	SPSWL	Speaker/Strobe Wall Mount, White 15cd	0	0	0.043	0.086
		1	SPSWL	Speaker/Strobe Wall Mount, White 75cd	0	0	0.107	0.107
					TOTAL STANDBY (A)	0.156	TOTAL ALARM (A)	3.319

REQUIRED STANDBY TIME = 24 HOURS
REQUIRED ALARM TIME = 5 MINUTES

SECONDARY STANDBY LOAD (A)	0.156	24	3.74
SECONDARY ALARM LOAD (A)	3.319	0.08	0.28
STANDBY AND ALARM SUBTOTAL (AMP HOURS)		4.02	
DERATING FACTOR		1.2	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		4.82	

PROVIDE (2) 12V 7AH BATTERIES

PANEL BPS-7 (PSE-10) BATTERY CALCULATION
(SECONDARY POWER SOURCE REQUIREMENTS)

PANEL POWER SUPPLY MAX CURRENT = 10A — TOTAL USED CAPACITY (IN ALARM) = 3.472A (34.72 %)

PANEL COMPONENTS	QTY	PART NO.	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	TOTAL
	1	PSE-10 MAIN BOARD	PSE-10 MAIN BOARD	0.156	0.156	0.185	0.185

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
BPS-7•N43		9	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.369
		2	SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	0	0	0.063	0.126
		2	SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	0	0	0.111	0.222
		1	SPSWL	Speaker/Strobe Wall Mount, White 15cd	0	0	0.043	0.043
BPS-7•N44		6	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.246
		1	SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	0	0	0.063	0.063
		1	SPSWL	Speaker/Strobe Wall Mount, White 15cd	0	0	0.043	0.043
		2	SPSWL	Speaker/Strobe Wall Mount, White 30cd	0	0	0.063	0.126
		2	SPSWL	Speaker/Strobe Wall Mount, White 75cd	0	0	0.107	0.214
BPS-7•N45		8	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.328
		2	SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	0	0	0.063	0.126
		2	SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	0	0	0.111	0.222
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 15cd	0	0	0.066	0.066
		1	SPSWL	Speaker/Strobe Wall Mount, White 15cd	0	0	0.043	0.043
BPS-7•N46	WP	5	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 115cd	0	0	0.21	1.05
					TOTAL STANDBY (A)	0.156	TOTAL ALARM (A)	3.472

REQUIRED STANDBY TIME = 24 HOURS
REQUIRED ALARM TIME = 5 MINUTES

SECONDARY STANDBY LOAD (A)	0.156	24	3.74
SECONDARY ALARM LOAD (A)	3.472	0.08	0.29
STANDBY AND ALARM SUBTOTAL (AMP HOURS)		4.03	
DERATING FACTOR		1.2	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		4.84	

PROVIDE (2) 12V 7AH BATTERIES

*BATTERY BOX SIZE CAPACITY NOT SPECIFIED. REFER TO MANUFACTURER DOCUMENTATION.

PANEL BPS-2 (PSE-10) BATTERY CALCULATION
(SECONDARY POWER SOURCE REQUIREMENTS)

PANEL POWER SUPPLY MAX CURRENT = 10A — TOTAL USED CAPACITY (IN ALARM) = 3.422A (34.22 %)

PANEL COMPONENTS	QTY	PART NO.	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	TOTAL
	1	PSE-10 MAIN BOARD	PSE-10 MAIN BOARD	0.156	0.156	0.185	0.185

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
BPS-2•N10	WP	3	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	0	0	0.21	0.63
BPS-2•N11	WP	1	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	0	0	0.21	0.21
	WP	3	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 115cd	0	0	0.21	0.63
BPS-2•N8	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 75cd	0	0	0.158	0.158
	WP	2	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 115cd	0	0	0.21	0.42
		3	SPSWL	Speaker/Strobe Wall Mount, White 15cd	0	0	0.043	0.129
		1	SPSWL	Speaker/Strobe Wall Mount, White 110cd	0	0	0.148	0.148
BPS-2•N9	WP	2	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 30cd	0	0	0.094	0.188
	WP	2	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	0	0	0.21	0.42
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 30cd	0	0	0.094	0.094
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 115cd	0	0	0.21	0.21
					TOTAL STANDBY (A)	0.156	TOTAL ALARM (A)	3.422

REQUIRED STANDBY TIME = 24 HOURS
REQUIRED ALARM TIME = 5 MINUTES

SECONDARY STANDBY LOAD (A)	0.156	24	3.74
SECONDARY ALARM LOAD (A)	3.422	0.08	0.29
STANDBY AND ALARM SUBTOTAL (AMP HOURS)		4.03	
DERATING FACTOR		1.2	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		4.84	

PROVIDE (2) 12V 7AH BATTERIES

PANEL BPS-5 (PSE-10) BATTERY CALCULATION
(SECONDARY POWER SOURCE REQUIREMENTS)

PANEL POWER SUPPLY MAX CURRENT = 10A — TOTAL USED CAPACITY (IN ALARM) = 2.714A (27.14 %)

PANEL COMPONENTS	QTY	PART NO.	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	TOTAL
	1	PSE-10 MAIN BOARD	PSE-10 MAIN BOARD	0.156	0.156	0.185	0.185

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
BPS-5•N29		3	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.123
		2	SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	0	0	0.063	0.126
		3	SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	0	0	0.111	0.333
		2	SPSWL	Speaker/Strobe Wall Mount, White 15cd	0	0	0.043	0.086
		1	SPSWL	Speaker/Strobe Wall Mount, White 30cd	0	0	0.063	0.063
BPS-5•N30		5	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.205
		1	SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	0	0	0.111	0.111
		2	SPSWL	Speaker/Strobe Wall Mount, White 15cd	0	0	0.043	0.086
		1	SPSWL	Speaker/Strobe Wall Mount, White 30cd	0	0	0.063	0.063
		2	SPSWL	Speaker/Strobe Wall Mount, White 75cd	0	0	0.107	0.214
BPS-5•N31		3	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.123
		5	SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	0	0	0.111	0.555
BPS-5•N32		2	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.082
		3	SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	0	0	0.063	0.189
		1	SPSWL	Speaker/Strobe Wall Mount, White 30cd	0	0	0.063	0.063
		1	SPSWL	Speaker/Strobe Wall Mount, White 75cd	0	0	0.107	0.107
					TOTAL STANDBY (A)	0.156	TOTAL ALARM (A)	2.714

REQUIRED STANDBY TIME = 24 HOURS
REQUIRED ALARM TIME = 5 MINUTES

SECONDARY STANDBY LOAD (A)	0.156	24	3.74
SECONDARY ALARM LOAD (A)	2.714	0.08	0.23
STANDBY AND ALARM SUBTOTAL (AMP HOURS)		3.97	
DERATING FACTOR		1.2	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		4.76	

PROVIDE (2) 12V 7AH BATTERIES

PANEL AMP-1 (AMP CABINET (DAA2-5025) EQBB-4) BATTERY CALCULATION
(SECONDARY POWER SOURCE REQUIREMENTS)

PANEL COMPONENTS	QTY	PART NO.	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	TOTAL
	1	DAA2-5025	120 VAC Digital Audio Amplifier (50 W, 25VRMS), Max Alarm Current	0.4	0.4	3.2	3.2

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
AMP-1•S1		7	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0	0	0.01	0.07
		12	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0	0	0.01	0.12
AMP-1•S2		7	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0	0	0.01	0.07
	WP	2	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	0	0	0.04	0.08
		3	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0	0	0.01	0.03
AMP-1•S3	WP	1	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	0	0	0.04	0.04
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	0	0	0.04	0.04
		4	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0	0	0.01	0.04
AMP-1•S4	WP	2	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	0	0	0.04	0.08
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 0.25w	0	0	0.01	0.01
	WP	2	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	0	0	0.04	0.08
		2	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0	0	0.01	0.02
					TOTAL STANDBY (A)	0.4	TOTAL ALARM (A)	3.88

REQUIRED STANDBY TIME = 24 HOURS
REQUIRED ALARM TIME = 5 MINUTES

SECONDARY STANDBY LOAD (A)	0.4	24	9.6
SECONDARY ALARM LOAD (A)	3.88	0.08	0.32
STANDBY AND ALARM SUBTOTAL (AMP HOURS)		9.92	
DERATING FACTOR		1.2	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		11.91	

PROVIDE (2) 12V 12AH BATTERIES

PANEL BPS-3 (PSE-10) BATTERY CALCULATION
(SECONDARY POWER SOURCE REQUIREMENTS)

PANEL POWER SUPPLY MAX CURRENT = 10A — TOTAL USED CAPACITY (IN ALARM) = 3.653A (36.53 %)

PANEL COMPONENTS	QTY	PART NO.	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	TOTAL
	1	PSE-10 MAIN BOARD	PSE-10 MAIN BOARD	0.156	0.156	0.185	0.185

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
BPS-3•N15	WP	3	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	0	0	0.21	0.63
		1	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.041
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 30cd	0	0	0.094	0.094
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 110cd	0	0	0.202	0.202
		4	SPSWL	Speaker/Strobe Wall Mount, White 15cd	0	0	0.043	0.172
BPS-3•N16		7	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.287
		1	SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	0	0	0.063	0.063
		3	SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	0	0	0.111	0.333
		1	SPSWL	Speaker/Strobe Wall Mount, White 30cd	0	0	0.063	0.063
BPS-3•N17	WP	3	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	0	0	0.21	0.63
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 30cd	0	0	0.094	0.094
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 115cd	0	0	0.21	0.21
BPS-3•N18	WP	2	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 115cd	0	0	0.21	0.42
		3	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.123
		1	SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	0	0	0.063	0.063
		1	SPSWL	Speaker/Strobe Wall Mount, White 15cd	0	0	0.043	0.043
					TOTAL STANDBY (A)	0.156	TOTAL ALARM (A)	3.653

REQUIRED STANDBY TIME = 24 HOURS
REQUIRED ALARM TIME = 5 MINUTES

SECONDARY STANDBY LOAD (A)	0.156	24	3.74
SECONDARY ALARM LOAD (A)	3.653	0.08	0.3
STANDBY AND ALARM SUBTOTAL (AMP HOURS)		4.05	
DERATING FACTOR		1.2	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		4.86	

PROVIDE (2) 12V 7AH BATTERIES

PANEL BPS-6 (PSE-10) BATTERY CALCULATION
(SECONDARY POWER SOURCE REQUIREMENTS)

PANEL POWER SUPPLY MAX CURRENT = 10A — TOTAL USED CAPACITY (IN ALARM) = 2.61A (26.10 %)

PANEL COMPONENTS	QTY	PART NO.	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	TOTAL
	1	PSE-10 MAIN BOARD	PSE-10 MAIN BOARD	0.156	0.156	0.185	0.185

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
BPS-6•N36		2	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.082
		1	SPSCWL	Speaker/Strobe Ceiling Mount, White 30cd	0	0	0.063	0.063
		3	SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	0	0	0.111	0.333
		2	SPSWL	Speaker/Strobe Wall Mount, White 15cd	0	0	0.043	0.086
		1	SPSWL	Speaker/Strobe Wall Mount, White 30cd	0	0	0.063	0.063
BPS-6•N37		4	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.164
		1	SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	0	0	0.111	0.111
		4	SPSWL	Speaker/Strobe Wall Mount, White 15cd	0	0	0.043	0.172
		1	SPSWL	Speaker/Strobe Wall Mount, White 75cd	0	0	0.107	0.107
BPS-6•N38		7	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.287
		1	SPSWL	Speaker/Strobe Wall Mount, White 75cd	0	0	0.107	0.107
		1	SPSWL	Speaker/Strobe Wall Mount, White 135cd	0	0	0.172	0.172
BPS-6•N39		3	SPSCWL	Speaker/Strobe Ceiling Mount, White 15cd	0	0	0.041	0.123
		5	SPSCWL	Speaker/Strobe Ceiling Mount, White 75cd	0	0	0.111	0.555
					TOTAL STANDBY (A)	0.156	TOTAL ALARM (A)	2.61

REQUIRED STANDBY TIME = 24 HOURS
REQUIRED ALARM TIME = 5 MINUTES

SECONDARY STANDBY LOAD (A)	0.156	24	3.74
SECONDARY ALARM LOAD (A)	2.61	0.08	0.22
STANDBY AND ALARM SUBTOTAL (AMP HOURS)		3.96	
DERATING FACTOR		1.2	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		4.75	

PROVIDE (2) 12V 7AH BATTERIES

PANEL DVC-1 (DVC-EM) BATTERY CALCULATION
(SECONDARY POWER SOURCE REQUIREMENTS)

PANEL POWER SUPPLY MAX CURRENT = 5A — TOTAL USED CAPACITY (IN ALARM) = 0A (0.00 %)

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	TOTAL (A)
DVC-1•DAP-A	AMP	5	AMP CABINET (DAA2-5025) EQBB-4	Amplifier Assembly - EQBB-B4, EQDR-B4, DAA2-5025, CHS-BH1	0	0	0	0
					TOTAL STANDBY (A)	0	TOTAL ALARM (A)	0

REQUIRED STANDBY TIME = 24 HOURS
REQUIRED ALARM TIME = 5 MINUTES

SECONDARY STANDBY LOAD (A)	0	24	0
SECONDARY ALARM LOAD (A)	0	0.08	0
STANDBY AND ALARM SUBTOTAL (AMP HOURS)		0	
DERATING FACTOR		1.2	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		0	

PROVIDE (2) 12V 26AH BATTERIES

PANEL AMP-4 (AMP CABINET (DAA2-5025) EQBB-4) BATTERY CALCULATION
(SECONDARY POWER SOURCE REQUIREMENTS)

PANEL COMPONENTS	QTY	PART NO.	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	TOTAL
	1	DAA2-5025	120 VAC Digital Audio Amplifier (50 W, 25VRMS), Max Alarm Current	0.4	0.4	3.2	3.2

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
AMP-4•S13		8	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0	0	0.01	0.08
		3	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0	0	0.01	0.03
AMP-4•S14		16	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0	0	0.01	0.16
		6	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0	0	0.01	0.06
AMP-4•S15		15	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0	0	0.01	0.15
		2	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0	0	0.01	0.02
AMP-4•S16		11	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0	0	0.01	0.11
		7	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0	0	0.01	0.07
					TOTAL STANDBY (A)	0.4	TOTAL ALARM (A)	3.88

REQUIRED STANDBY TIME = 24 HOURS
REQUIRED ALARM TIME = 5 MINUTES

SECONDARY STANDBY LOAD (A)	0.4	24	9.6
SECONDARY ALARM LOAD (A)	3.88	0.08	0.32
STANDBY AND ALARM SUBTOTAL (AMP HOURS)		9.92	
DERATING FACTOR		1.2	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		11.91	

PROVIDE (2) 12V 12AH BATTERIES

PANEL AMP-5 (AMP CABINET (DAA2-5025) EQBB-4) BATTERY CALCULATION
(SECONDARY POWER SOURCE REQUIREMENTS)

PANEL COMPONENTS	QTY	PART NO.	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	TOTAL
	1	DAA2-5025	120 VAC Digital Audio Amplifier (50 W, 25VRMS), Max Alarm Current	0.4	0.4	3.2	3.2

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
AMP-5•S17		20	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0	0	0.01	0.2
		5	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0	0	0.01	0.05
AMP-5•S18	WP	5	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	0	0	0.04	0.2
AMP-5•S19		12	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0	0	0.01	0.12
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 0.25w	0	0	0.01	0.01
		2	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0	0	0.01	0.02
					TOTAL STANDBY (A)	0.4	TOTAL ALARM (A)	3.8

REQUIRED STANDBY TIME = 24 HOURS
REQUIRED ALARM TIME = 5 MINUTES

SECONDARY STANDBY LOAD (A)	0.4	24	9.6
SECONDARY ALARM LOAD (A)	3.8	0.08	0.32
STANDBY AND ALARM SUBTOTAL (AMP HOURS)		9.92	
DERATING FACTOR		1.2	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		11.9	

PROVIDE (2) 12V 12AH BATTERIES

PANEL FACP-1 (NFS2-3030D (DVC)) BATTERY CALCULATION
(SECONDARY POWER SOURCE REQUIREMENTS)

PANEL POWER SUPPLY MAX CURRENT = 5A — TOTAL USED CAPACITY (IN ALARM) = 2.2939A (45.88 %)

PANEL COMPONENTS	QTY	PART NO.	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	TOTAL
	1	ACM-24AT	ONYX Series ACS Annunciator	0.016	0.016	0.07	0.07
	1	AMPS-24	Addressable Power Supply/Battery Charger	0.13	0.13	0	0
	1	CPU2-3030D	NFS2-3030 Fire Alarm Control Panel Main Board (Central Processing Unit), 120V Power, Includes Chassis, Display Option	0.34	0.34	0.34	0.34
	1	DVC-EM	Digital Voice Command, Extended Memory	0.3	0.3	0.3	0.3
	1	DVC-KD	Digital Voice Command, Keypad	0.06	0.06	0.06	0.06
	1	LCM-320	Loop Control Module	0.13	0.13	0.13	0.13
	1	UDACT-2	Universal Digital Alarm Communicator Transmitter-2	0.04	0.04	0.1	0.1

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
FACP-1•AUX-1	NAC	7	PSE-10	10A Remote Power Supply	0	0	0.002	0.014
FACP-1•DAP-A	ECCU	1	DVC-EM	DVC Assembly	0	0	0	0
FACP-1•EIA-485	FAA	2	FDU-80	Annunciator, Terminal mode. 80-character, backlit LCD display	0	0	0	0
FACP-1•L1	S	12	DNR w/FSP-951R	Intelligent Non-Relay Photoelectric Duct Detector/FSP-951R	0.0002	0.0024	0.0045	0.054
	S	3	DNRW w/FSP-951R	Intelligent Non-Relay Photoelectric Duct Detector/FSP-951R, WP	0.0002	0.0006	0.0045	0.0135
	AIM	2	FDM-1	Addressable Dual Monitor Module W/ FlashScan, 2 Class B	0.00075	0.0015	0.064	0.128
	AIM	55	FMM-1	Addressable Monitor Module W/ FlashScan, Supervises Class A or Class B of Dry Contact Input	0.000375	0.020625	0.005	0.275
	AOM	60	FRM-1	Addressable Relay Module W/ FlashScan, 2 Form-C Dry Contacts	0.000255	0.0153	0.0065	0.39
	S	78	FSP-951 w/B300-6	Addressable low-profile photoelectric smoke detector. FlashScan only.	0.0002	0.0156	0.0045	0.351
	H	15	FST-951 w/B300-6	Low-profile 135°F fixed thermal sensor. FlashScan only.	0.0002	0.003	0.0045	0.0675
	F	3	NBG-12LX	Dual-action addressable pull station. Includes key locking feature.	0.0003	0.0009	0.0003	0.0009
					TOTAL STANDBY (A)	1.075925	TOTAL ALARM (A)	2.2939

REQUIRED STANDBY TIME = 24 HOURS
REQUIRED ALARM TIME = 5 MINUTES

SECONDARY STANDBY LOAD (A)	1.075925	24	25.82
SECONDARY ALARM LOAD (A)	2.2939	0.08	0.19
STANDBY AND ALARM SUBTOTAL (AMP HOURS)		26.01	
DERATING FACTOR		1.2	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		31.22	

PROVIDE (2) 12V 55AH BATTERIES

PANEL AMP-2 (AMP CABINET (DAA2-5025) EQBB-4) BATTERY CALCULATION
(SECONDARY POWER SOURCE REQUIREMENTS)

PANEL COMPONENTS	QTY	PART NO.	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	TOTAL
	1	DAA2-5025	120 VAC Digital Audio Amplifier (50 W, 25VRMS), Max Alarm Current	0.4	0.4	3.2	3.2

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
AMP-2•S5	WP	6	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	0	0	0.04	0.24
		4	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0	0	0.01	0.04
AMP-2•S6	WP	8	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	0	0	0.04	0.32
	WP	2	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	0	0	0.04	0.08
					TOTAL STANDBY (A)	0.4	TOTAL ALARM (A)	3.88

REQUIRED STANDBY TIME = 24 HOURS
REQUIRED ALARM TIME = 5 MINUTES

SECONDARY STANDBY LOAD (A)	0.4	24	9.6
SECONDARY ALARM LOAD (A)	3.88	0.08	0.32
STANDBY AND ALARM SUBTOTAL (AMP HOURS)		9.92	
DERATING FACTOR		1.2	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		11.91	

PROVIDE (2) 12V 12AH BATTERIES

PANEL AMP-3 (AMP CABINET (DAA2-5025) EQBB-4) BATTERY CALCULATION
(SECONDARY POWER SOURCE REQUIREMENTS)

PANEL COMPONENTS	QTY	PART NO.	DESCRIPTION	STANDBY CURRENT (AMPS) CURRENT DRAW (A)	STANDBY TOTAL (A)	SECONDARY ALARM CURRENT (AMPS) CURRENT DRAW (A)	TOTAL
	1	DAA2-5025	120 VAC Digital Audio Amplifier (50 W, 25VRMS), Max Alarm Current	0.4	0.4	3.2	3.2

CIRCUIT	SYMBOL	QTY	PART NO	DESCRIPTION	CURRENT DRAW (A)	TOTAL (A)	CURRENT DRAW (A)	TOTAL (A)
AMP-3•S10		21	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0	0	0.01	0.21
		8	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0	0	0.01	0.08
AMP-3•S11		8	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0	0	0.01	0.08
	WP	2	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	0	0	0.04	0.08
		4	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0	0	0.01	0.04
AMP-3•S12	WP	4	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	0	0	0.04	0.16
	WP	3	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	0	0	0.04	0.12
		2	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0	0	0.01	0.02
AMP-3•S9	WP	4	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	0	0	0.04	0.16
		16	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0	0	0.01	0.16
	WP	1	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	0	0	0.04	0.04
		4	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0	0	0.01	0.04
					TOTAL STANDBY (A)	0.4	TOTAL ALARM (A)	4.39

REQUIRED STANDBY TIME = 24 HOURS
REQUIRED ALARM TIME = 5 MINUTES

SECONDARY STANDBY LOAD (A)	0.4	24	9.6
SECONDARY ALARM LOAD (A)	4.39	0.08	0.37
STANDBY AND ALARM SUBTOTAL (AMP HOURS)		9.97	
DERATING FACTOR		1.2	
SECONDARY LOAD REQUIREMENTS (AMP HOURS)		11.96	

PROVIDE (2) 12V 12AH BATTERIES

AMP-1 S1 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.168093
Min. Operational Voltage:	16	End Of Line Voltage:	24.52
Max. Circuit Watts:	50	Voltage Drop Percent:	1.92 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	4.75
Total Circuit Length (Ft):	385	Spare Watts:	45.25 W
Total Circuit Resistance (Ω):	3.769768 Ω	Spare Watts Percent:	90.50 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S1•01	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	4.75	44	0.43311	0.08	24.92	0.08	0.33 %	-0.028638	-0.028638
S1•02	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	4.5	47	0.463466	0.08	24.83	0.17	0.66 %	-0.029129	-0.057767
S1•03	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	4.25	17	0.162311	0.03	24.81	0.19	0.77 %	-0.009656	-0.067423
S1•04	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	4	44	0.428112	0.07	24.74	0.26	1.05 %	-0.024017	-0.09144
S1•05	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	3.75	15	0.14732	0.02	24.72	0.28	1.14 %	-0.007762	-0.099203
S1•06	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.5	24	0.234408	0.03	24.68	0.32	1.27 %	-0.01154	-0.110743
S1•07	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	3.25	28	0.270394	0.04	24.65	0.35	1.41 %	-0.012378	-0.123121
S1•08	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	3	36	0.349692	0.04	24.61	0.39	1.58 %	-0.0148	-0.137922
S1•09	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	2.75	25	0.245766	0.03	24.58	0.42	1.68 %	-0.009548	-0.14747
S1•10	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.5	3	0.027775	0	24.58	0.42	1.69 %	-0.000982	-0.148451
S1•11	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	2.25	17	0.169198	0.02	24.56	0.44	1.76 %	-0.005384	-0.153835
S1•12	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	2	10	0.095029	0.01	24.55	0.45	1.79 %	-0.002689	-0.156524
S1•13	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.75	8	0.075426	0.01	24.55	0.45	1.81 %	-0.001868	-0.158392
S1•14	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.5	13	0.128595	0.01	24.54	0.46	1.84 %	-0.002731	-0.161122
S1•15	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	1.25	17	0.165599	0.01	24.53	0.47	1.87 %	-0.002931	-0.164054
S1•16	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1	14	0.133815	0.01	24.53	0.47	1.89 %	-0.001895	-0.165949
S1•17	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	0.75	17	0.169329	0.01	24.52	0.48	1.91 %	-0.001799	-0.167748
S1•18	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.5	3	0.026751	0	24.52	0.48	1.91 %	-0.00019	-0.167938
S1•19 EOL	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.25	4	0.043672	0	24.52	0.48	1.92 %	-0.000155	-0.168093

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-1 S2 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.098496
Min. Operational Voltage:	16	End Of Line Voltage:	24.72
Max. Circuit Watts:	50	Voltage Drop Percent:	1.13 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	4.5
Total Circuit Length (Ft):	289	Spare Watts:	45.5 W
Total Circuit Resistance (Ω):	2.827956 Ω	Spare Watts Percent:	91.00 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S2•01	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.5	40	0.387595	0.07	24.93	0.07	0.28 %	-0.024273	-0.024273
S2•02	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.25	13	0.127971	0.02	24.91	0.09	0.37 %	-0.007583	-0.031856
S2•03	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	4	26	0.255704	0.04	24.87	0.13	0.53 %	-0.014279	-0.046135
S2•04	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	3	51	0.496572	0.06	24.81	0.19	0.77 %	-0.020839	-0.066974
S2•05	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	2.75	15	0.147006	0.02	24.79	0.21	0.83 %	-0.005664	-0.072637
S2•06	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	1.75	39	0.386223	0.03	24.76	0.24	0.94 %	-0.009477	-0.082115
S2•07	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.5	36	0.105864	0.01	24.74	0.26	1.03 %	-0.002229	-0.084344
S2•08	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.25	30	0.200107	0.01	24.73	0.27	1.08 %	-0.003514	-0.087858
S2•09	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	1	16	0.152585	0.01	24.72	0.28	1.11 %	-0.002144	-0.090001
S2•10	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.75	11	0.103024	0	24.72	0.28	1.12 %	-0.001086	-0.091088
S2•11	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.5	3	0.02465	0	24.72	0.28	1.12 %	-0.000173	-0.091261
S2•12 EOL	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.25	10	0.096865	0	24.72	0.28	1.13 %	-0.00034	-0.091601

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-1 S3 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.03889
Min. Operational Voltage:	16	End Of Line Voltage:	24.89
Max. Circuit Watts:	50	Voltage Drop Percent:	0.45 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	3
Total Circuit Length (Ft):	162	Spare Watts:	47 W
Total Circuit Resistance (Ω):	1.583145 Ω	Spare Watts Percent:	94.00 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S3•01	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	3	7	0.070749	0.01	24.99	0.01	0.03 %	-0.00295	-0.00295
S3•02	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	2.75	55	0.54233	0.06	24.93	0.07	0.27 %	-0.020758	-0.023709
S3•03	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	1.75	50	0.487253	0.03	24.9	0.1	0.41 %	-0.011891	-0.0356
S3•04	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	0.75	6	0.058673	0	24.9	0.1	0.42 %	-0.000614	-0.036214
S3•05	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	0.5	35	0.342942	0.01	24.89	0.11	0.44 %	-0.002393	-0.038607
S3•06 EOL	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	0.25	8	0.081198	0	24.89	0.11	0.45 %	-0.000283	-0.03889

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-1 S4 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.147353
Min. Operational Voltage:	16	End Of Line Voltage:	24.58
Max. Circuit Watts:	50	Voltage Drop Percent:	1.68 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	4.75
Total Circuit Length (Ft):	410	Spare Watts:	45.25 W
Total Circuit Resistance (Ω):	4.008645 Ω	Spare Watts Percent:	90.50 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S4•01	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	4.75	33	0.326252	0.06	24.94	0.06	0.25 %	-0.021564	-0.021564
S4•02	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	4.5	12	0.121494	0.02	24.92	0.08	0.34 %	-0.00762	-0.029184
S4•03	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	4.25	88	0.86474	0.15	24.77	0.23	0.92 %	-0.051399	-0.080583
S4•04	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	3.25	60	0.587528	0.08	24.69	0.31	1.23 %	-0.026826	-0.107408
S4•05	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	2.25	39	0.376746	0.03	24.66	0.34	1.36 %	-0.011935	-0.119343
S4•06	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 0.25w	0.25	0.01	1.25	103	1.011517	0.05	24.61	0.39	1.57 %	-0.017833	-0.137177
S4•07 EOL	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	1	74	0.720368	0.03	24.58	0.42	1.68 %	-0.010177	-0.147353

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-4 S13 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.056478
Min. Operational Voltage:	16	End Of Line Voltage:	24.84
Max. Circuit Watts:	50	Voltage Drop Percent:	0.65 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	2.75
Total Circuit Length (Ft):	319	Spare Watts:	47.25 W
Total Circuit Resistance (Ω):	3.12227 Ω	Spare Watts Percent:	94.50 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S13•01	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	2.75	2	0.015403	0	25	0	0.01 %	-0.000589	-0.000589
S13•02	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.5	19	0.184098	0.02	24.98	0.02	0.08 %	-0.006399	-0.006988
S13•03	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	2.25	48	0.465138	0.04	24.94	0.06	0.25 %	-0.014568	-0.021556
S13•04	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2	28	0.276004	0.02	24.92	0.08	0.34 %	-0.007694	-0.02925
S13•05	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.75	12	0.11822	0.01	24.91	0.09	0.37 %	-0.002885	-0.032135
S13•06	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	1.5	39	0.38435	0.02	24.88	0.12	0.46 %	-0.008046	-0.040181
S13•07	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.25	7	0.073222	0	24.88	0.12	0.48 %	-0.001278	-0.041459
S13•08	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1	32	0.311098	0.01	24.87	0.13	0.53 %	-0.004345	-0.045804
S13•09	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.75	77	0.754002	0.02	24.85	0.15	0.62 %	-0.007904	-0.053708
S13•10	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.5	26	0.251608	0.01	24.84	0.16	0.64 %	-0.001759	-0.055467
S13•11 EOL	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.25	30	0.289127	0	24.84	0.16	0.65 %	-0.001011	-0.056478

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-4 S14 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.32598
Min. Operational Voltage:	16	End Of Line Voltage:	24.08
Max. Circuit Watts:	50	Voltage Drop Percent:	3.68 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	5.5
Total Circuit Length (Ft):	753	Spare Watts:	44.5 W
Total Circuit Resistance (Ω):	7.365222 Ω	Spare Watts Percent:	89.00 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S14•01	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	5.5	87	0.848423	0.19	24.81	0.19	0.75 %	-0.065093	-0.065093
S14•02	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	5.25	21	0.207376	0.04	24.77	0.23	0.92 %	-0.015258	-0.080351
S14•03	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	5	33	0.322811	0.06	24.71	0.29	1.18 %	-0.022669	-0.10302
S14•04	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.75	34	0.330091	0.06	24.64	0.36	1.43 %	-0.022078	-0.125098
S14•05	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.5	41	0.399769	0.07	24.57	0.43	1.72 %	-0.025401	-0.150499
S14•06	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.25	22	0.21531	0.04	24.53	0.47	1.86 %	-0.012949	-0.163448
S14•07	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	4	59	0.574034	0.09	24.44	0.56	2.23 %	-0.032577	-0.196025
S14•08	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	3.75	35	0.338487	0.05	24.39	0.61	2.43 %	-0.018062	-0.214087
S14•09	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.5	32	0.316073	0.04	24.35	0.65	2.61 %	-0.015772	-0.229859
S14•10	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	3.25	11	0.105983	0.01	24.33	0.67	2.67 %	-0.004917	-0.234776
S14•11	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	3	59	0.579249	0.07	24.26	0.74	2.94 %	-0.024847	-0.259623
S14•12	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.75	40	0.39593	0.04	24.22	0.78	3.12 %	-0.015605	-0.275228
S14•13	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	2.5	27	0.259595	0.03	24.19	0.81	3.22 %	-0.009315	-0.284543
S14•14	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.25	14	0.137929	0.01	24.18	0.82	3.27 %	-0.004458	-0.289
S14•15	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2	16	0.159795	0.01	24.17	0.83	3.32 %	-0.004593	-0.293593
S14•16	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.75	30	0.296393	0.02	24.15	0.85	3.41 %	-0.00746	-0.301053
S14•17	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.5	38	0.374202	0.02	24.13	0.87	3.50 %	-0.008079	-0.309133
S14•18	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.25	33	0.320974	0.02	24.11	0.89	3.56 %	-0.00578	-0.314913
S14•19	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1	34	0.336674	0.01	24.1	0.9	3.61 %	-0.004853	-0.319766
S14•20	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.75	35	0.341454	0.01	24.09	0.91	3.66 %	-0.003693	-0.323459
S14•21	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.5	20	0.194242	0	24.08	0.92	3.67 %	-0.001401	-0.32486
S14•22 EOL	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.25	32	0.310428	0	24.08	0.92	3.68 %	-0.00112	-0.32598

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-2 S5 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.183392
Min. Operational Voltage:	16	End Of Line Voltage:	24.48
Max. Circuit Watts:	50	Voltage Drop Percent:	2.09 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	7
Total Circuit Length (Ft):	347	Spare Watts:	43 W
Total Circuit Resistance (Ω):	3.391407 Ω	Spare Watts Percent:	86.00 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S5•01	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	7	11	0.109802	0.03	24.97	0.03	0.12 %	-0.010688	-0.010688
S5•02	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	6.75	4	0.041239	0.01	24.96	0.04	0.17 %	-0.003874	-0.014563
S5•03	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	6.5	15	0.148002	0.04	24.92	0.08	0.32 %	-0.013402	-0.027965
S5•04	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	5.5	10	0.094451	0.02	24.9	0.1	0.40 %	-0.007246	-0.035211
S5•05	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	5.25	11	0.103889	0.02	24.88	0.12	0.49 %	-0.007614	-0.042825
S5•06	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	5	103	1.011687	0.2	24.67	0.33	1.30 %	-0.070935	-0.11376
S5•07	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	4	75	0.735759	0.12	24.56	0.44	1.77 %	-0.041539	-0.155299
S5•08	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	3	23	0.227838	0.03	24.53	0.47	1.88 %	-0.009676	-0.164975
S5•09	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	2	39	0.380161	0.03	24.5	0.5	2.00 %	-0.010776	-0.175751
S5•10 EOL	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	1	55	0.538579	0.02	24.48	0.52	2.09 %	-0.007641	-0.183392

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-2 S6 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.370711
Min. Operational Voltage:	16	End Of Line Voltage:	23.96
Max. Circuit Watts:	50	Voltage Drop Percent:	4.18 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	10
Total Circuit Length (Ft):	506	Spare Watts:	40 W
Total Circuit Resistance (Ω):	4.950552 Ω	Spare Watts Percent:	80.00 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S6•01	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	10	59	0.579925	0.23	24.77	0.23	0.93 %	-0.080971	-0.080971
S6•02	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	9	7	0.065217	0.02	24.74	0.26	1.02 %	-0.008237	-0.089208
S6•03	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	8	58	0.564271	0.18	24.56	0.44	1.74 %	-0.063615	-0.152824
S6•04	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	7	44	0.433218	0.12	24.44	0.56	2.23 %	-0.042999	-0.195822
S6•05	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	6	87	0.853967	0.2	24.24	0.76	3.05 %	-0.073138	-0.268961
S6•06	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	5	46	0.448253	0.09	24.15	0.85	3.41 %	-0.032187	-0.301148
S6•07	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	4	48	0.470403	0.08	24.07	0.93	3.71 %	-0.027114	-0.328262
S6•08	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	3	43	0.420749	0.05	24.02	0.98	3.91 %	-0.018237	-0.346499
S6•09	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	2	57	0.557223	0.04	23.98	1.02	4.09 %	-0.016133	-0.362632
S6•10 EOL	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	1	57	0.557326	0.02	23.96	1.04	4.18 %	-0.008079	-0.370711

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-5 S17 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.291358
Min. Operational Voltage:	16	End Of Line Voltage:	24.18
Max. Circuit Watts:	50	Voltage Drop Percent:	3.30 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	6.25
Total Circuit Length (Ft):	828	Spare Watts:	43.75 W
Total Circuit Resistance (Ω):	8.101332 Ω	Spare Watts Percent:	87.50 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S17•01	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	6.25	43	0.424349	0.11	24.89	0.11	0.42 %	-0.036937	-0.036937
S17•02	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	6	18	0.180649	0.04	24.85	0.15	0.60 %	-0.015141	-0.052078
S17•03	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	5.75	22	0.214549	0.05	24.8	0.2	0.80 %	-0.017265	-0.069342
S17•04	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	5.5	18	0.173876	0.04	24.76	0.24	0.95 %	-0.013407	-0.08275
S17•05	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	5.25	23	0.221444	0.05	24.72	0.28	1.13 %	-0.016327	-0.099077
S17•06	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	5	19	0.189504	0.04	24.68	0.32	1.29 %	-0.013329	-0.112406
S17•07	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.75	32	0.310383	0.06	24.62	0.38	1.52 %	-0.020781	-0.133187
S17•08	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	4.5	13	0.124103	0.02	24.6	0.4	1.61 %	-0.007885	-0.141072
S17•09	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	4.25	34	0.33439	0.06	24.54	0.46	1.84 %	-0.020097	-0.161169
S17•10	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	4	32	0.313032	0.05	24.49	0.51	2.04 %	-0.017745	-0.178914
S17•11	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.75	17	0.164496	0.02	24.47	0.53	2.14 %	-0.008755	-0.18767
S17•12	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.5	23	0.223239	0.03	24.43	0.57	2.26 %	-0.011103	-0.198772
S17•13	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.25	28	0.276397	0.04	24.4	0.6	2.41 %	-0.012782	-0.211555
S17•14	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3	27	0.265434	0.03	24.37	0.63	2.53 %	-0.011347	-0.222901
S17•15	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.75	30	0.291159	0.03	24.33	0.67	2.66 %	-0.011424	-0.234326
S17•16	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.5	37	0.357286	0.04	24.3	0.7	2.80 %	-0.012762	-0.247088
S17•17	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.25	30	0.291191	0.03	24.27	0.73	2.91 %	-0.009373	-0.256461
S17•18	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2	24	0.236469	0.02	24.25	0.75	2.99 %	-0.006772	-0.263233
S17•19	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.75	10	0.094718	0.01	24.25	0.75	3.01 %	-0.002375	-0.265608
S17•20	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.5	27	0.262059	0.02	24.23	0.77	3.07 %	-0.005635	-0.271243
S17•21	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.25	29	0.279947	0.01	24.22	0.78	3.13 %	-0.005019	-0.276261
S17•22	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1	32	0.309758	0.01	24.2	0.8	3.18 %	-0.004445	-0.280706
S17•23	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.75	13	0.126454	0	24.2	0.8	3.20 %	-0.001362	-0.282068
S17•24	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.5	15	0.150735	0	24.2	0.8	3.21 %	-0.001082	-0.28315
S17•25 EOL	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	0.25	234	2.285711	0.02	24.18	0.82	3.30 %	-0.008208	-0.291358

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-5 S18 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.107821
Min. Operational Voltage:	16	End Of Line Voltage:	24.69
Max. Circuit Watts:	50	Voltage Drop Percent:	1.23 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	5
Total Circuit Length (Ft):	251	Spare Watts:	45 W
Total Circuit Resistance (Ω):	2.455168 Ω	Spare Watts Percent:	90.00 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S18•01	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	5	60	0.398221	0.08	24.88	0.12	0.47 %	-0.027757	-0.027757
S18•02	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	4	24	0.234354	0.04	24.85	0.15	0.62 %	-0.013099	-0.040856
S18•03	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	3	83	0.809332	0.1	24.75	0.25	1.01 %	-0.034019	-0.074875
S18•04	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	2	61	0.595306	0.05	24.7	0.3	1.20 %	-0.016731	-0.091605
S18•05 EOL	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	1	24	0.231632	0.01	24.69	0.31	1.23 %	-0.003259	-0.094864

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-5 S19 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.106731
Min. Operational Voltage:	16	End Of Line Voltage:	24.69
Max. Circuit Watts:	50	Voltage Drop Percent:	1.22 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	3.75
Total Circuit Length (Ft):	389	Spare Watts:	46.25 W
Total Circuit Resistance (Ω):	3.800504 Ω	Spare Watts Percent:	92.50 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S19•01	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	3.75	8	0.076629	0.01	24.99	0.01	0.05 %	-0.003994	-0.003994
S19•02	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	3.5	6	0.057454	0.01	24.98	0.02	0.08 %	-0.002797	-0.006791
S19•03	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.25	42	0.414682	0.05	24.93	0.07	0.29 %	-0.018765	-0.025556
S19•04	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3	33	0.3261	0.04	24.89	0.11	0.45 %	-0.013647	-0.039202
S19•05	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.75	60	0.586764	0.06	24.82	0.18	0.71 %	-0.022556	-0.061758
S19•06	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.5	34	0.329471	0.03	24.79	0.21	0.84 %	-0.011536	-0.073294
S19•07	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.25	16	0.154695	0.01	24.78	0.22	0.90 %	-0.00488	-0.078174
S19•08	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2	27	0.267337	0.02	24.75	0.25	0.98 %	-0.007501	-0.085675
S19•09	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.75	13	0.130212	0.01	24.75	0.25	1.02 %	-0.003199	-0.088874
S19•10	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.5	14	0.139274	0.01	24.74	0.26	1.05 %	-0.002934	-0.091807
S19•11	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.25	17	0.170317	0.01	24.73	0.27	1.09 %	-0.002991	-0.094798
S19•12	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1	44	0.42881	0.02	24.71	0.29	1.15 %	-0.006027	-0.100825
S19•13	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.75	36	0.355982	0.01	24.7	0.3	1.20 %	-0.003754	-0.104579
S19•14	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.5	25	0.249065	0	24.7	0.3	1.22 %	-0.001752	-0.106331
S19•15 EOL	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 0.25w	0.25	0.01	0.25	12	0.113712	0	24.69	0.31	1.22 %	-0.0004	-0.106731

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-4 S15 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.148291
Min. Operational Voltage:	16	End Of Line Voltage:	24.58
Max. Circuit Watts:	50	Voltage Drop Percent:	1.69 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	4.25
Total Circuit Length (Ft):	475	Spare Watts:	45.75 W
Total Circuit Resistance (Ω):	4.647931 Ω	Spare Watts Percent:	91.50 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S15•01	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.25	41	0.239802	0.04	24.93	0.07	0.28 %	-0.014191	-0.014191
S15•02	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	4	33	0.326646	0.05	24.88	0.12	0.48 %	-0.018227	-0.032418
S15•03	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.75	25	0.242862	0.04	24.84	0.16	0.63 %	-0.012728	-0.045146
S15•04	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.5	40	0.392444	0.05	24.79	0.21	0.85 %	-0.019231	-0.064377
S15•05	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.25	20	0.194812	0.03	24.76	0.24	0.95 %	-0.008879	-0.073256
S15•06	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3	30	0.295348	0.04	24.73	0.27	1.09 %	-0.012441	-0.085697
S15•07	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	2.75	27	0.259596	0.03	24.7	0.3	1.21 %	-0.010037	-0.095734
S15•08	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.5	9	0.091394	0.01	24.69	0.31	1.24 %	-0.003215	-0.098949
S15•09	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.25	11	0.105658	0.01	24.68	0.32	1.28 %	-0.003346	-0.102295
S15•10	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2	16	0.156694	0.01	24.67	0.33	1.33 %	-0.004413	-0.106708
S15•11	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.75	31	0.299161	0.02	24.65	0.35	1.42 %	-0.007377	-0.114085
S15•12	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.5	38	0.374202	0.02	24.62	0.38	1.51 %	-0.007916	-0.122001
S15•13	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.25	33	0.320974	0.02	24.61	0.39	1.57 %	-0.005663	-0.127664
S15•14	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1	34	0.336674	0.01	24.59	0.41	1.62 %	-0.004755	-0.132419
S15•15	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.75	35	0.341454	0.01	24.58	0.42	1.66 %	-0.003619	-0.136038
S15•16	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.5	20	0.194243	0	24.58	0.42	1.68 %	-0.001373	-0.137411
S15•17 EOL	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.25	32	0.310428	0	24.58	0.42	1.69 %	-0.001097	-0.138508

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-3 S10 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.348076
Min. Operational Voltage:	16	End Of Line Voltage:	24.02
Max. Circuit Watts:	50	Voltage Drop Percent:	3.93 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	7.25
Total Circuit Length (Ft):	658	Spare Watts:	42.75 W
Total Circuit Resistance (Ω):	6.434165 Ω	Spare Watts Percent:	85.50 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S10•01	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	7.25	21	0.078404	0.02	24.94	0.06	0.23 %	-0.007914	-0.007914
S10•02	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	7	2	0.023467	0.01	24.94	0.06	0.26 %	-0.002289	-0.010203
S10•03	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	6.75	23	0.222261	0.06	24.88	0.12	0.50 %	-0.020929	-0.031132
S10•04	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	6.5	26	0.250284	0.07	24.81	0.19	0.76 %	-0.022752	-0.053884
S10•05	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	6.25	14	0.136297	0.03	24.78	0.22	0.90 %	-0.011937	-0.065822
S10•06	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	6	37	0.362703	0.09	24.69	0.31	1.24 %	-0.030571	-0.096392
S10•07	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	5.75	31	0.305863	0.07	24.62	0.38	1.53 %	-0.024785	-0.121177
S10•08	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	5.5	34	0.33706	0.07	24.54	0.46	1.82 %	-0.026202	-0.147379
S10•09	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	5.25	57	0.552648	0.12	24.43	0.57	2.29 %	-0.041168	-0.188547
S10•10	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	5	17	0.168918	0.03	24.39	0.61	2.42 %	-0.012021	-0.200567
S10•11	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.75	19	0.183902	0.03	24.36	0.64	2.56 %	-0.01245	-0.213017
S10•12	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.5	28	0.272222	0.05	24.31	0.69	2.76 %	-0.017489	-0.230506
S10•13	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.25	15	0.14334	0.02	24.29	0.71	2.85 %	-0.008711	-0.239217
S10•14	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4	16	0.15756	0.03	24.26	0.74	2.96 %	-0.009021	-0.248238
S10•15	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	3.75	10	0.096657	0.01	24.25	0.75	3.01 %	-0.005192	-0.25343
S10•16	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.5	22	0.2182	0.03	24.22	0.78	3.14 %	-0.01095	-0.264381
S10•17	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.25	43	0.424731	0.06	24.16	0.84	3.36 %	-0.019827	-0.284208
S10•18	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3	18	0.177775	0.02	24.14	0.86	3.44 %	-0.007673	-0.29188
S10•19	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	2.75	16	0.15783	0.02	24.12	0.88	3.51 %	-0.006249	-0.29813
S10•20	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.5	16	0.152924	0.02	24.11	0.89	3.57 %	-0.005508	-0.303638
S10•21	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.25	20	0.197968	0.02	24.09	0.91	3.64 %	-0.006422	-0.31006
S10•22	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2	20	0.197816	0.02	24.07	0.93	3.71 %	-0.005708	-0.315767
S10•23	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	1.75	31	0.303627	0.02	24.05	0.95	3.79 %	-0.007672	-0.32344
S10•24	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.5	12	0.115296	0.01	24.05	0.95	3.82 %	-0.002499	-0.325938
S10•25	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.25	9	0.084628	0	24.04	0.96	3.84 %	-0.001529	-0.327467
S10•26	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1	15	0.143368	0.01	24.04	0.96	3.86 %	-0.002072	-0.329539
S10•27	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.75	26	0.256794	0.01	24.03	0.97	3.89 %	-0.002785	-0.332324
S10•28	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.5	37	0.359984	0.01	24.02	0.98	3.92 %	-0.002603	-0.334927
S10•29 EOL	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	0.25	23	0.229452	0	24.02	0.98	3.93 %	-0.00083	-0.335757

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-3 S11 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.257656
Min. Operational Voltage:	16	End Of Line Voltage:	24.27
Max. Circuit Watts:	50	Voltage Drop Percent:	2.92 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	5
Total Circuit Length (Ft):	584	Spare Watts:	45 W
Total Circuit Resistance (Ω):	5.715091 Ω	Spare Watts Percent:	90.00 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S11•01	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	5	85	0.705609	0.14	24.83	0.17	0.66 %	-0.049218	-0.049218
S11•02	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.75	32	0.313038	0.06	24.77	0.23	0.90 %	-0.020827	-0.070045
S11•03	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.5	8	0.077948	0.01	24.76	0.24	0.96 %	-0.004921	-0.074966
S11•04	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.25	28	0.272191	0.05	24.71	0.29	1.14 %	-0.016247	-0.091213
S11•05	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4	35	0.341454	0.05	24.66	0.34	1.36 %	-0.019222	-0.110434
S11•06	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.75	34	0.336673	0.05	24.61	0.39	1.56 %	-0.017806	-0.12824
S11•07	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.5	33	0.320974	0.04	24.56	0.44	1.74 %	-0.015875	-0.144115
S11•08	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.25	32	0.314708	0.04	24.52	0.48	1.91 %	-0.014478	-0.158593
S11•09	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	3	78	0.760229	0.09	24.43	0.57	2.27 %	-0.032371	-0.190965
S11•10	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	2.75	10	0.096221	0.01	24.42	0.58	2.31 %	-0.003763	-0.194728
S11•11	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	2.5	48	0.466866	0.05	24.38	0.62	2.50 %	-0.016621	-0.211349
S11•12	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	2.25	106	1.033326	0.09	24.28	0.72	2.87 %	-0.033203	-0.244552
S11•13	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	1.25	19	0.183707	0.01	24.27	0.73	2.91 %	-0.003286	-0.247838
S11•14 EOL	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	0.25	38	0.369961	0	24.27	0.73	2.92 %	-0.001324	-0.249162

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-3 S12 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.186721
Min. Operational Voltage:	16	End Of Line Voltage:	24.47
Max. Circuit Watts:	50	Voltage Drop Percent:	2.13 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	7.5
Total Circuit Length (Ft):	413	Spare Watts:	42.5 W
Total Circuit Resistance (Ω):	4.035672 Ω	Spare Watts Percent:	85.00 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S12•01	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	7.5	4	0.0368	0.01	24.99	0.01	0.04 %	-0.003837	-0.003837
S12•02	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	6.5	15	0.142738	0.04	24.95	0.05	0.19 %	-0.012909	-0.016746
S12•03	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	6.25	4	0.041239	0.01	24.94	0.06	0.23 %	-0.00359	-0.020336
S12•04	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	6	35	0.338473	0.08	24.86	0.14	0.56 %	-0.028336	-0.048671
S12•05	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	5	62	0.606693	0.12	24.74	0.26	1.04 %	-0.042498	-0.09117
S12•06	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	4	57	0.558608	0.09	24.65	0.35	1.40 %	-0.031437	-0.122607
S12•07	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	3	52	0.508073	0.06	24.59	0.41	1.65 %	-0.021511	-0.144117
S12•08	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	2	123	1.204657	0.1	24.49	0.51	2.03 %	-0.03411	-0.178228
S12•09 EOL	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	1	61	0.598391	0.02	24.47	0.53	2.13 %	-0.008493	-0.186721

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-3 S9 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.493217
Min. Operational Voltage:	16	End Of Line Voltage:	23.62
Max. Circuit Watts:	50	Voltage Drop Percent:	5.52 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	10
Total Circuit Length (Ft):	765	Spare Watts:	40 W
Total Circuit Resistance (Ω):	7.477433 Ω	Spare Watts Percent:	80.00 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S9•01	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	10	59	0.577487	0.23	24.77	0.23	0.92 %	-0.080629	-0.080629
S9•02	SPSWK	Speaker/Strobe Outdoor Wall Mount, White 1w	1	0.04	9.75	11	0.106432	0.04	24.73	0.27	1.09 %	-0.014568	-0.095197
S9•03	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	8.75	53	0.520694	0.18	24.55	0.45	1.82 %	-0.064253	-0.15945
S9•04	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	7.75	29	0.279024	0.09	24.46	0.54	2.16 %	-0.030663	-0.190113
S9•05	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	6.75	34	0.336622	0.09	24.37	0.63	2.53 %	-0.032337	-0.222449
S9•06	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	5.75	72	0.709044	0.16	24.2	0.8	3.18 %	-0.058325	-0.280774
S9•07	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	5.5	10	0.093525	0.02	24.18	0.82	3.26 %	-0.007387	-0.288161
S9•08	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	5.25	31	0.307969	0.06	24.12	0.88	3.52 %	-0.023259	-0.31142
S9•09	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	5	26	0.249731	0.05	24.07	0.93	3.72 %	-0.018005	-0.329425
S9•10	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.75	22	0.217023	0.04	24.03	0.97	3.89 %	-0.014893	-0.344318
S9•11	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.5	41	0.401194	0.07	23.96	1.04	4.18 %	-0.026144	-0.370462
S9•12	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4.25	25	0.244313	0.04	23.91	1.09	4.34 %	-0.015072	-0.385533
S9•13	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4	25	0.244916	0.04	23.88	1.12	4.50 %	-0.014245	-0.399778
S9•14	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.75	34	0.328548	0.05	23.83	1.17	4.70 %	-0.017947	-0.417725
S9•15	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.5	26	0.25145	0.04	23.79	1.21	4.84 %	-0.012843	-0.430568
S9•16	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	3.25	25	0.248429	0.03	23.76	1.24	4.97 %	-0.011799	-0.442367
S9•17	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3	6	0.057066	0.01	23.75	1.25	4.99 %	-0.002504	-0.444871
S9•18	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.75	9	0.084091	0.01	23.74	1.26	5.03 %	-0.003383	-0.448254
S9•19	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.5	6	0.05846	0.01	23.74	1.26	5.05 %	-0.002139	-0.450393
S9•20	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.25	33	0.319605	0.03	23.71	1.29	5.17 %	-0.010532	-0.460925
S9•21	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2	28	0.26991	0.02	23.69	1.31	5.25 %	-0.007915	-0.46884
S9•22	SPSCWK	Speaker/Strobe Outdoor Ceiling Mount, White 1w	1	0.04	1.75	66	0.641429	0.04	23.64	1.36	5.43 %	-0.016481	-0.485321
S9•23	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.75	46	0.448836	0.01	23.63	1.37	5.49 %	-0.004948	-0.490269
S9•24	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	0.5	33	0.320202	0.01	23.62	1.38	5.51 %	-0.002354	-0.492624
S9•25 EOL	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	0.25	17	0.161433	0	23.62	1.38	5.52 %	-0.000594	-0.493217

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

AMP-4 S16 SPEAKER SCHEDULE

CIRCUIT SETTINGS		TOTALS	
Starting Calculation Voltage:	25	Max. dB Loss:	-0.197461
Min. Operational Voltage:	16	End Of Line Voltage:	24.44
Max. Circuit Watts:	50	Voltage Drop Percent:	2.25 %
Wire Resistance (Ω/kFt):	4.89	Total Circuit Watts:	4.5
Total Circuit Length (Ft):	718	Spare Watts:	45.5 W
Total Circuit Resistance (Ω):	7.022249 Ω	Spare Watts Percent:	91.00 %

Circuit Wiring Properties: 'S' 16/2 FPLP (SPK) 16 AWG, SPEAKER - 2 Cond. Solid Copper FPLP Analog Shielded
Distance measured using drawn segment lengths with 10.00 % additional length calculated

Device Label	Part No.	Description	Device Watts	Watts To Amps Conversion	Remaining Watts	Dist. From Previous (Ft)	Resistance From Previous (Ω)	Voltage Drop From Previous	Voltage At Device	Total Voltage Drop	Voltage Drop Percent	dB Loss From Previous	Total dB Loss
S16•01	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	4.5	20	0.034389	0.01	24.96	0.04	0.14 %	-0.002153	-0.002153
S16•02	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	4.25	2	0.021124	0	24.96	0.04	0.16 %	-0.00125	-0.003403
S16•03	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	4	20	0.191927	0.03	24.93	0.07	0.28 %	-0.010693	-0.014096
S16•04	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	3.75	43	0.423899	0.06	24.87	0.13	0.54 %	-0.022182	-0.036278
S16•05	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3.5	30	0.297179	0.04	24.82	0.18	0.70 %	-0.014545	-0.050823
S16•06	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	3.25	42	0.412366	0.05	24.77	0.23	0.92 %	-0.018777	-0.0696
S16•07	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	3	35	0.343399	0.04	24.73	0.27	1.08 %	-0.014462	-0.084062
S16•08	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.75	68	0.661085	0.07	24.66	0.34	1.37 %	-0.025579	-0.109641
S16•09	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.5	26	0.251608	0.03	24.63	0.37	1.47 %	-0.008868	-0.118509
S16•10	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2.25	30	0.289127	0.03	24.61	0.39	1.58 %	-0.009181	-0.127689
S16•11	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	2	42	0.408622	0.03	24.57	0.43	1.71 %	-0.011547	-0.139236
S16•12	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.75	34	0.330091	0.02	24.55	0.45	1.80 %	-0.008171	-0.147408
S16•13	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.5	46	0.453404	0.03	24.52	0.48	1.91 %	-0.00963	-0.157038
S16•14	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1.25	86	0.844053	0.04	24.48	0.52	2.08 %	-0.014961	-0.171999
S16•15	SPSCWL	Speaker/Strobe Ceiling Mount, White 0.25w	0.25	0.01	1	22	0.217357	0.01	24.47	0.53	2.11 %	-0.003085	-0.175084
S16•16	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	0.75	70	0.688478	0.02	24.45	0.55	2.19 %	-0.007334	-0.182418
S16•17	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	0.5	34	0.329743	0.01	24.44	0.56	2.22 %	-0.002343	-0.184761
S16•18 EOL	SPSWL	Speaker/Strobe Wall Mount, White 0.25w	0.25	0.01	0.25	67	0.658859	0.01	24.44	0.56	2.25 %	-0.002342	-0.187103

Calculation Methods:
Watts To Amps Conversion = Device Watts / Voltage
Resistance From Previous (Ω) = Wire Resistance (Ω/Ft) x 2 x Dist. From Previous (Ft)
Voltage Drop From Previous = Resistance From Previous (Ω) x Remaining Current (A)
dB Loss From Previous = 20 × Log (Voltage At Previous Device / Voltage At Device)
Max. dB Loss = 20 × Log (Voltage At Last Device / Start Voltage)

ELEC. ROOM

OFFICE LEVEL 7

ELEC. ROOM

OFFICE LEVEL 6

ELEC. ROOM

OFFICE LEVEL 5

ELEC. ELBOW ROOM

OFFICE LEVEL 4

ELEC. ROOM

BRANCH LEVEL 2 & PARKING LEVEL 3

ELEC. ROOM

PARKING LEVEL 2

ELEC. ROOM

BRANCH LEVEL 1 & PARKING LEVEL 1

SERVICE LEVEL 0

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	NFS2-3030D FIRE ALARM CONTROL PANEL
NAC	10A REMOTE POWER SUPPLY
FAA	ANNUNCIATOR
ECCU	DVC ASSEMBLY
AMP	AMPLIFIER ASSEMBLY
WP	SPEAKER/STROBE OUTDOOR WALL MOUNT, WHITE
F	ALARM BELL (BY OTHERS)
	SPEAKER/STROBE WALL MOUNT, WHITE
WP	SPEAKER/STROBE OUTDOOR CEILING MOUNT, WHITE
	SPEAKER/STROBE CEILING MOUNT, WHITE
F	PULL STATION. DUAL-ACTION
AIM	MONITOR MODULE
AIM	DUAL MONITOR MODULE
AOM	RELAY MODULE W/ FLASHSCAN,TS
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R, WP
H	LOW-PROFILE 135°F FIXED THERMAL SENSOR. FLASHSCAN ONLY.
S	LOW-PROFILE PHOTOELECTRIC SMOKE DETECTOR. FLASHSCAN ONLY.

CABLE AND WIRE LEGEND

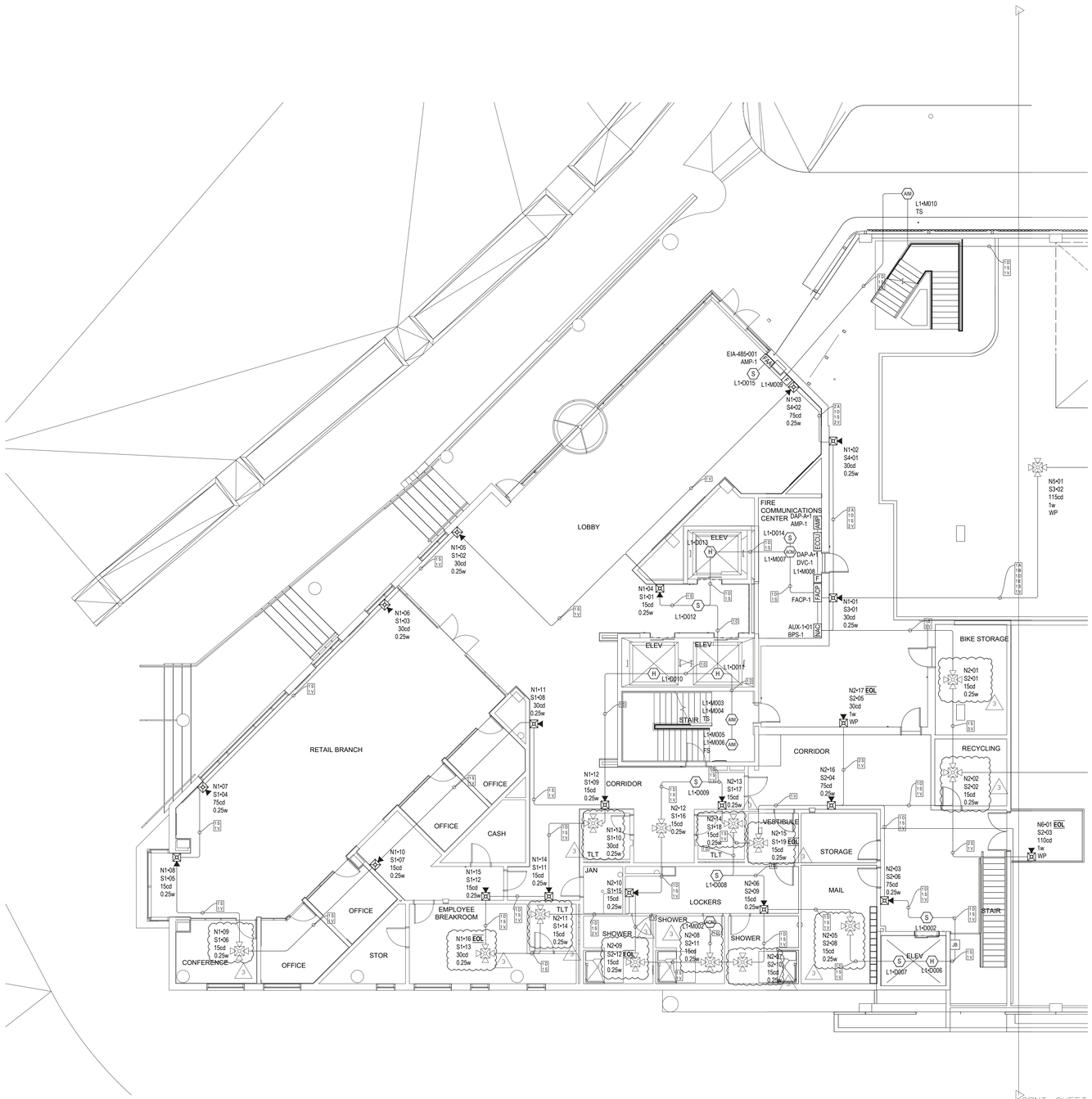
LABEL	AWG	DESCRIPTION
A	18	ANNUNCIATOR - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
B	14	NAC TRIGGER - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
D	16	SLC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
E	18	EAI - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
S	16	SPEAKER - 2 COND. SOLID COPPER FPLP ANALOG SHIELDED
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED

KEY PLAN

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

SERVICE LEVEL 0
1/8"=1'-0"



BRANCH LEVEL 1
1/8"=1'-0"

LEGEND	
PM	POWER MONITORING
FL	FIELD LOCATED
BAS	BUILDING AUTOMATION SYSTEM
FS	WATERFLOW SWITCH
TS	TAMPER SWITCH
A.C.	ABOVE CEILING

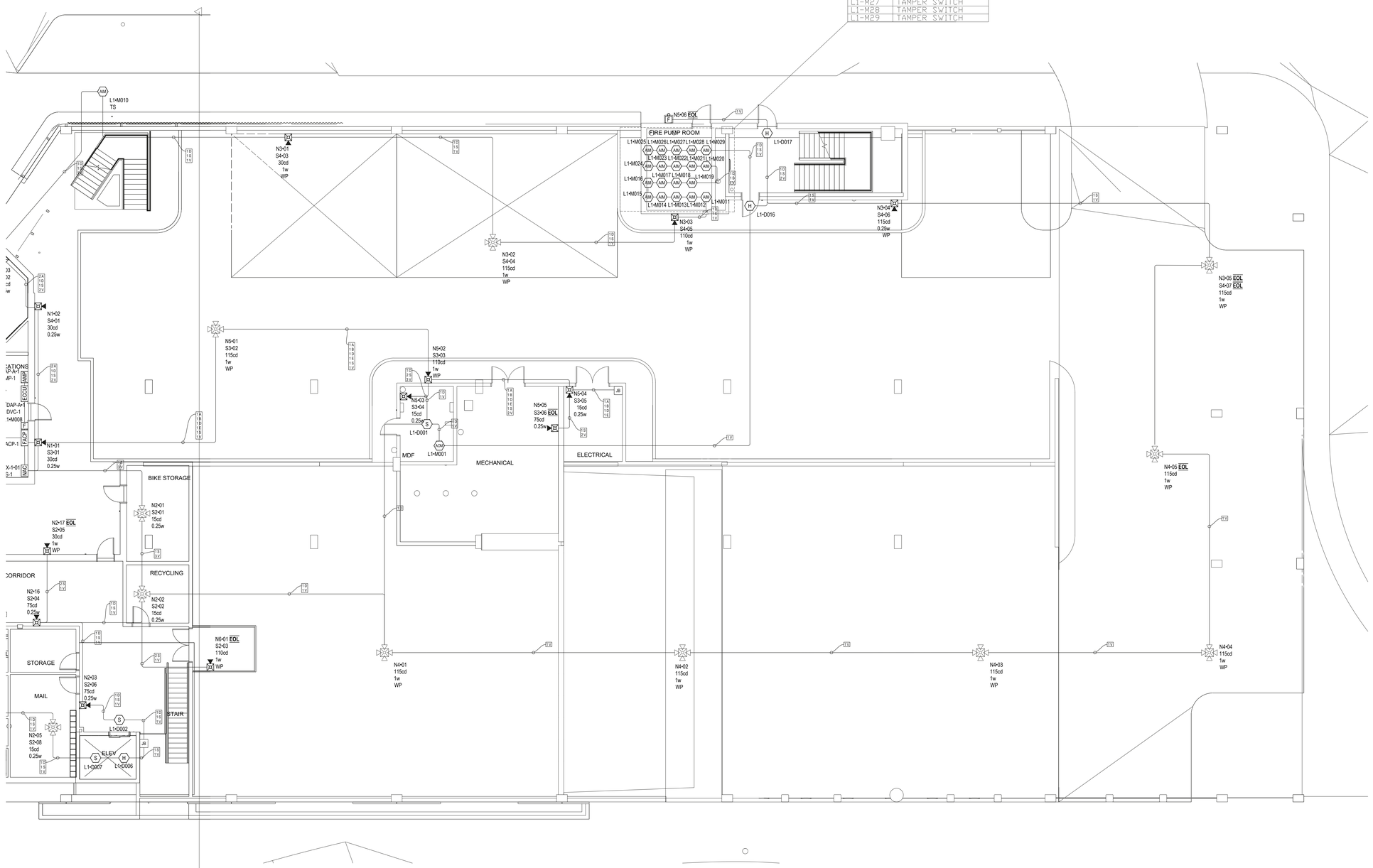
DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	NFS2-3030D FIRE ALARM CONTROL PANEL
NAC	10A REMOTE POWER SUPPLY
FAA	ANNUNCIATOR
ECCU	DVC ASSEMBLY
AMP	AMPLIFIER ASSEMBLY
WP	SPEAKER/STROBE OUTDOOR WALL MOUNT, WHITE
F	ALARM BELL (BY OTHERS)
	SPEAKER/STROBE WALL MOUNT, WHITE
WP	SPEAKER/STROBE OUTDOOR CEILING MOUNT, WHITE
	SPEAKER/STROBE CEILING MOUNT, WHITE
F	PULL STATION. DUAL-ACTION
AIM	MONITOR MODULE
AIM	DUAL MONITOR MODULE
AOM	RELAY MODULE W/ FLASHSCAN,TS
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R, WP
H	LOW-PROFILE 135°F FIXED THERMAL SENSOR. FLASHSCAN ONLY.
S	LOW-PROFILE PHOTOELECTRIC SMOKE DETECTOR. FLASHSCAN ONLY.

CABLE AND WIRE LEGEND

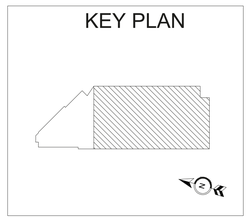
LABEL	AWG	DESCRIPTION
A	18	ANNUNCIATOR - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
B	14	NAC TRIGGER - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
D	16	SLC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
E	18	EAI - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
S	16	SPEAKER - 2 COND. SOLID COPPER FPLP ANALOG SHIELDED
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED

L1-M11	NITROGEN GENERATOR
L1-M12	FIRE PUMP STATUS
L1-M13	FIRE PUMP STATUS
L1-M14	FIRE PUMP STATUS
L1-M15	FIRE PUMP STATUS
L1-M16	WATERFLOW SWITCH
L1-M17	WATERFLOW SWITCH
L1-M18	WATERFLOW SWITCH
L1-M19	WATERFLOW SWITCH
L1-M20	TAMPER SWITCH
L1-M21	TAMPER SWITCH
L1-M22	TAMPER SWITCH
L1-M23	TAMPER SWITCH
L1-M24	TAMPER SWITCH
L1-M25	TAMPER SWITCH
L1-M26	TAMPER SWITCH
L1-M27	TAMPER SWITCH
L1-M28	TAMPER SWITCH
L1-M29	TAMPER SWITCH



CONT. SHEET 6

KEY PLAN



0 4' 8' 16'

SCALE: 1/8" = 1'-0"

PARKING LEVEL 1

1/8"=1'-0"

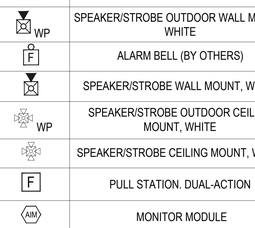
LEGEND	
PM	POWER MONITORING
FL	FIELD LOCATED
BAS	BUILDING AUTOMATION SYSTEM
FS	WATERFLOW SWITCH
TS	TAMPER SWITCH
A.C.	ABOVE CEILING

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	NFS2-3030D FIRE ALARM CONTROL PANEL
NAC	10A REMOTE POWER SUPPLY
FAA	ANNUNCIATOR
ECCU	DVC ASSEMBLY
AMP	AMPLIFIER ASSEMBLY
WP	SPEAKER/STROBE OUTDOOR WALL MOUNT, WHITE
F	ALARM BELL (BY OTHERS)
	SPEAKER/STROBE WALL MOUNT, WHITE
WP	SPEAKER/STROBE OUTDOOR CEILING MOUNT, WHITE
	SPEAKER/STROBE CEILING MOUNT, WHITE
F	PULL STATION. DUAL-ACTION
AIM	MONITOR MODULE
AIM	DUAL MONITOR MODULE
AOM	RELAY MODULE W/ FLASHSCAN,TS
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R, WP
H	LOW-PROFILE 135°F FIXED THERMAL SENSOR. FLASHSCAN ONLY.
S	LOW-PROFILE PHOTOELECTRIC SMOKE DETECTOR. FLASHSCAN ONLY.

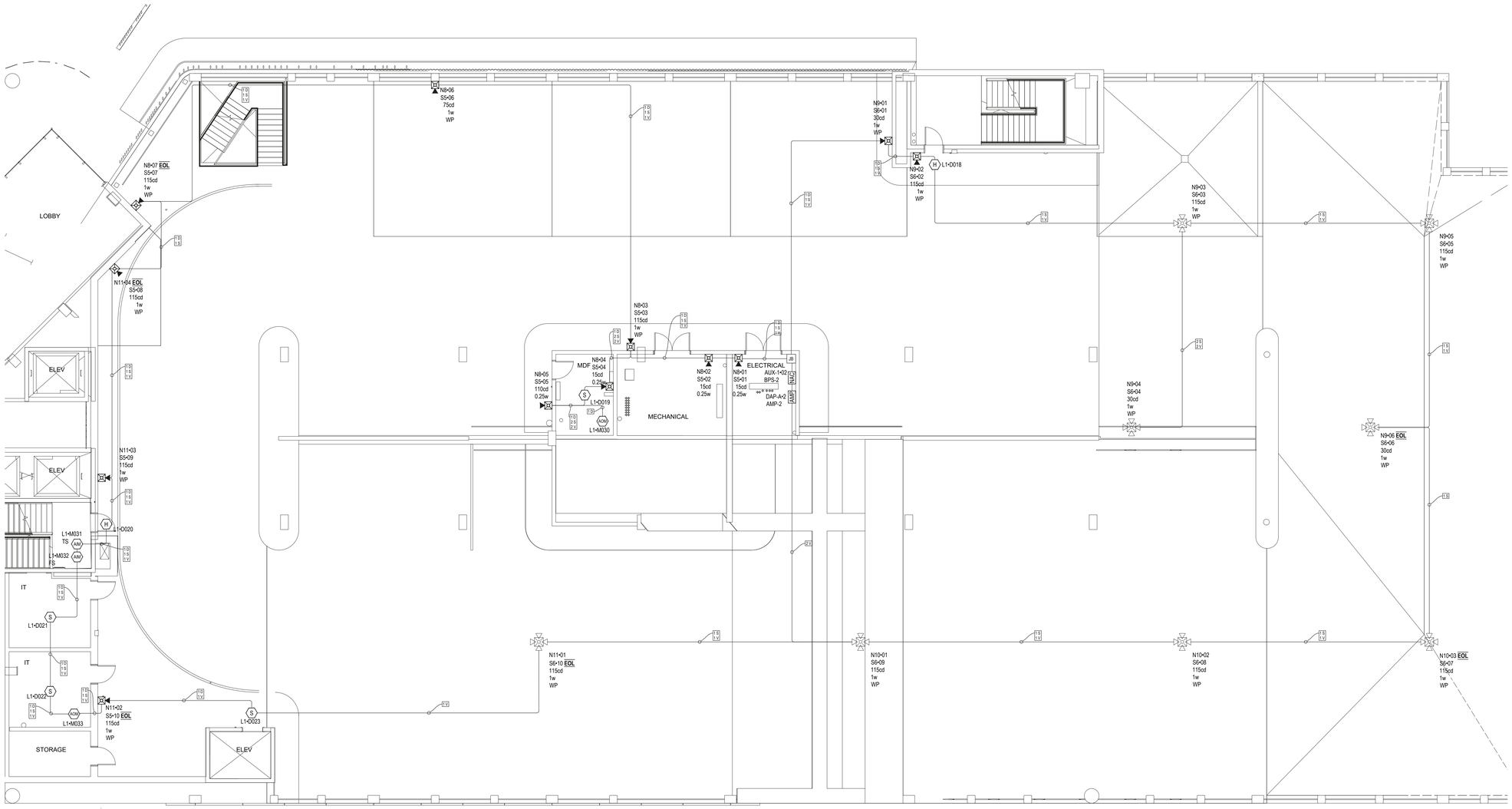
CABLE AND WIRE LEGEND

LABEL	AWG	DESCRIPTION
A	18	ANNUNCIATOR - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
B	14	NAC TRIGGER - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
D	16	SLC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
E	18	EAI - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
S	16	SPEAKER - 2 COND. SOLID COPPER FPLP ANALOG SHIELDED
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED



0 4' 8' 16'

SCALE: 1/8" = 1'-0"



PARKING LEVEL 2
1/8"=1'-0"

LEGEND	
PM	POWER MONITORING
FL	FIELD LOCATED
BAS	BUILDING AUTOMATION SYSTEM
FS	WATERFLOW SWITCH
TS	TAMPER SWITCH
A.C.	ABOVE CEILING

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	NFS2-3030D FIRE ALARM CONTROL PANEL
NAC	10A REMOTE POWER SUPPLY
FAA	ANNUNCIATOR
ECCU	DVC ASSEMBLY
AMP	AMPLIFIER ASSEMBLY
WP	SPEAKER/STROBE OUTDOOR WALL MOUNT, WHITE
F	ALARM BELL (BY OTHERS)
	SPEAKER/STROBE WALL MOUNT, WHITE
WP	SPEAKER/STROBE OUTDOOR CEILING MOUNT, WHITE
	SPEAKER/STROBE CEILING MOUNT, WHITE
F	PULL STATION. DUAL-ACTION
AIM	MONITOR MODULE
AIM	DUAL MONITOR MODULE
AOM	RELAY MODULE W/ FLASHSCAN,TS
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R, WP
H	LOW-PROFILE 135°F FIXED THERMAL SENSOR. FLASHSCAN ONLY.
S	LOW-PROFILE PHOTOELECTRIC SMOKE DETECTOR. FLASHSCAN ONLY.

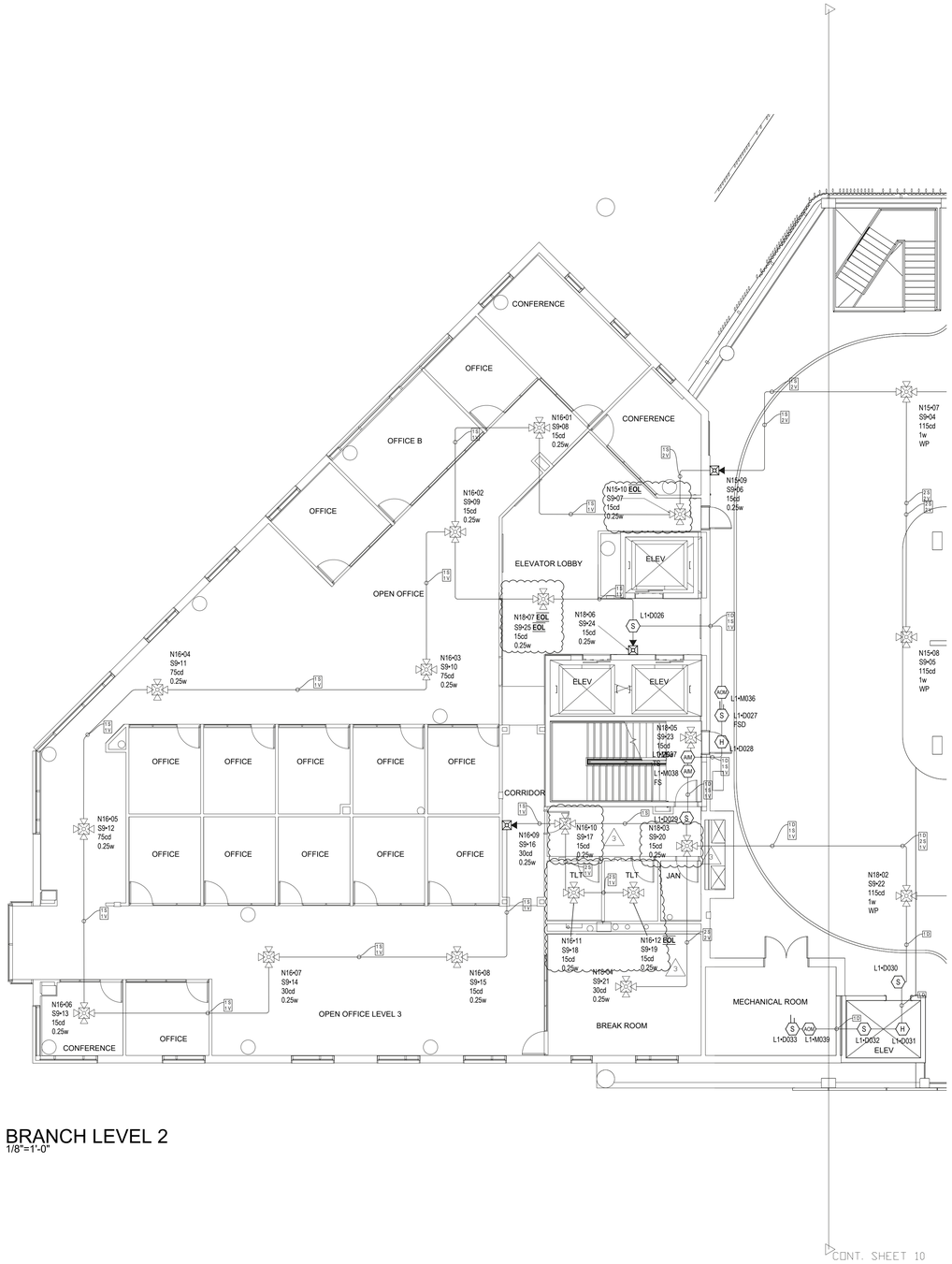
CABLE AND WIRE LEGEND

LABEL	AWG	DESCRIPTION
A	18	ANNUNCIATOR - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
B	14	NAC TRIGGER - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
D	16	SLC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
E	18	EAI - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
S	16	SPEAKER - 2 COND. SOLID COPPER FPLP ANALOG SHIELDED
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED

KEY PLAN

0 4' 8' 16'

SCALE: 1/8" = 1'-0"



BRANCH LEVEL 2
1/8"=1'-0"

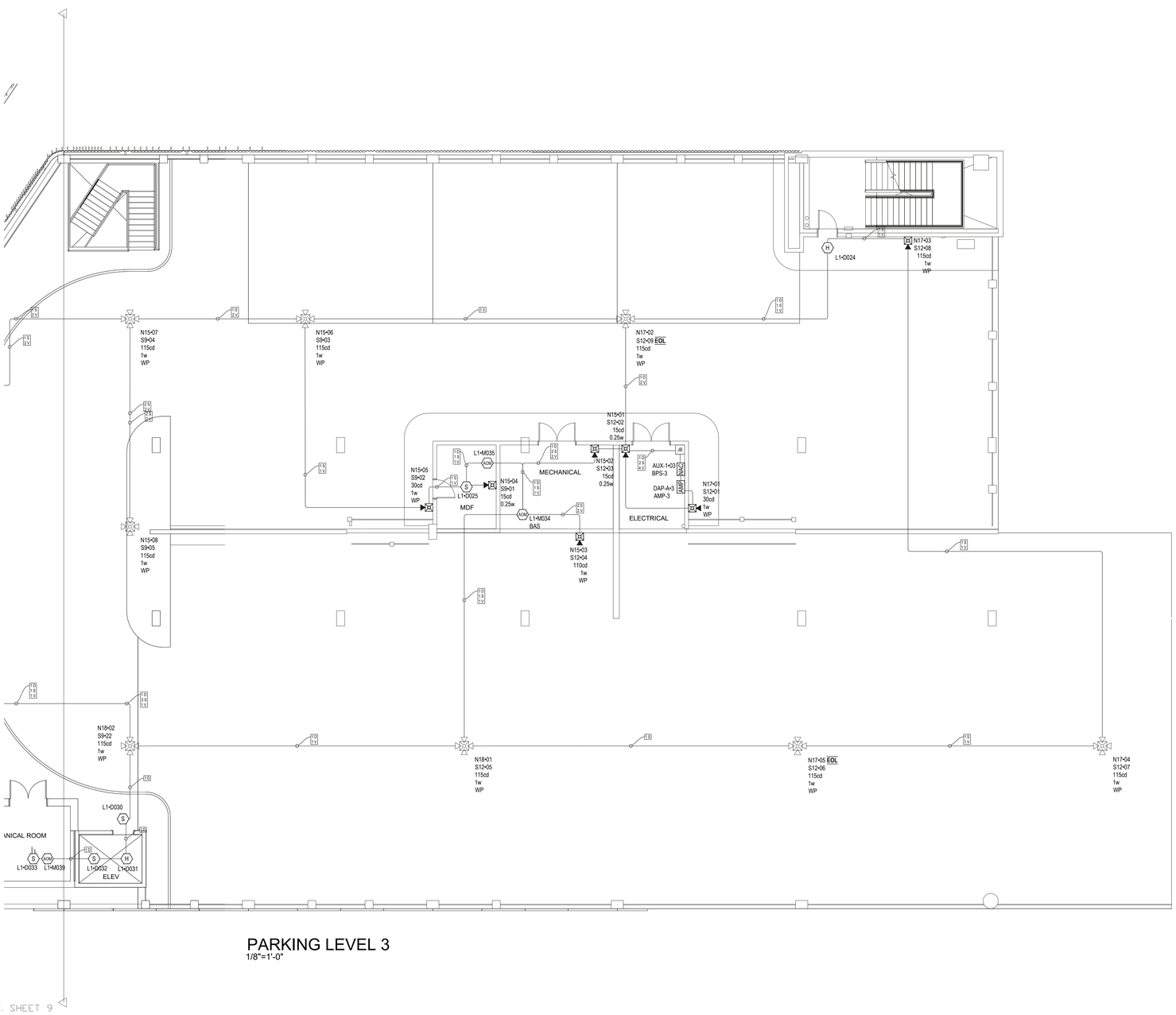
LEGEND	
PM	POWER MONITORING
FL	FIELD LOCATED
BAS	BUILDING AUTOMATION SYSTEM
FS	WATERFLOW SWITCH
TS	TAMPER SWITCH
A.C.	ABOVE CEILING

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	NFS2-3030D FIRE ALARM CONTROL PANEL
NAC	10A REMOTE POWER SUPPLY
FAA	ANNUNCIATOR
ECCU	DVC ASSEMBLY
AMP	AMPLIFIER ASSEMBLY
WP	SPEAKER/STROBE OUTDOOR WALL MOUNT, WHITE
F	ALARM BELL (BY OTHERS)
	SPEAKER/STROBE WALL MOUNT, WHITE
WP	SPEAKER/STROBE OUTDOOR CEILING MOUNT, WHITE
	SPEAKER/STROBE CEILING MOUNT, WHITE
F	PULL STATION. DUAL-ACTION
AIM	MONITOR MODULE
AIM	DUAL MONITOR MODULE
AOM	RELAY MODULE W/ FLASHSCAN,TS
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R, WP
H	LOW-PROFILE 135°F FIXED THERMAL SENSOR. FLASHSCAN ONLY.
S	LOW-PROFILE PHOTOELECTRIC SMOKE DETECTOR. FLASHSCAN ONLY.

CABLE AND WIRE LEGEND

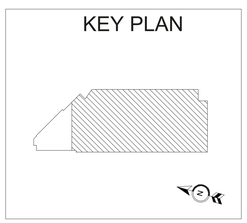
LABEL	AWG	DESCRIPTION
A	18	ANNUNCIATOR - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
B	14	NAC TRIGGER - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
D	16	SLC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
E	18	EAI - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
S	16	SPEAKER - 2 COND. SOLID COPPER FPLP ANALOG SHIELDED
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED



PARKING LEVEL 3
1/8"=1'-0"

CONT. SHEET 9

KEY PLAN



0 4' 8' 16'

SCALE: 1/8" = 1'-0"

LEGEND	
PM	POWER MONITORING
FL	FIELD LOCATED
BAS	BUILDING AUTOMATION SYSTEM
FS	WATERFLOW SWITCH
TS	TAMPER SWITCH
A.C.	ABOVE CEILING

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	NFS2-3030D FIRE ALARM CONTROL PANEL
NAC	10A REMOTE POWER SUPPLY
FAA	ANNUNCIATOR
ECCU	DVC ASSEMBLY
AMP	AMPLIFIER ASSEMBLY
WP	SPEAKER/STROBE OUTDOOR WALL MOUNT, WHITE
F	ALARM BELL (BY OTHERS)
	SPEAKER/STROBE WALL MOUNT, WHITE
WP	SPEAKER/STROBE OUTDOOR CEILING MOUNT, WHITE
	SPEAKER/STROBE CEILING MOUNT, WHITE
F	PULL STATION. DUAL-ACTION
AIM	MONITOR MODULE
AIM	DUAL MONITOR MODULE
AOM	RELAY MODULE W/ FLASHSCAN,TS
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R, WP
H	LOW-PROFILE 135°F FIXED THERMAL SENSOR. FLASHSCAN ONLY.
S	LOW-PROFILE PHOTOELECTRIC SMOKE DETECTOR. FLASHSCAN ONLY.

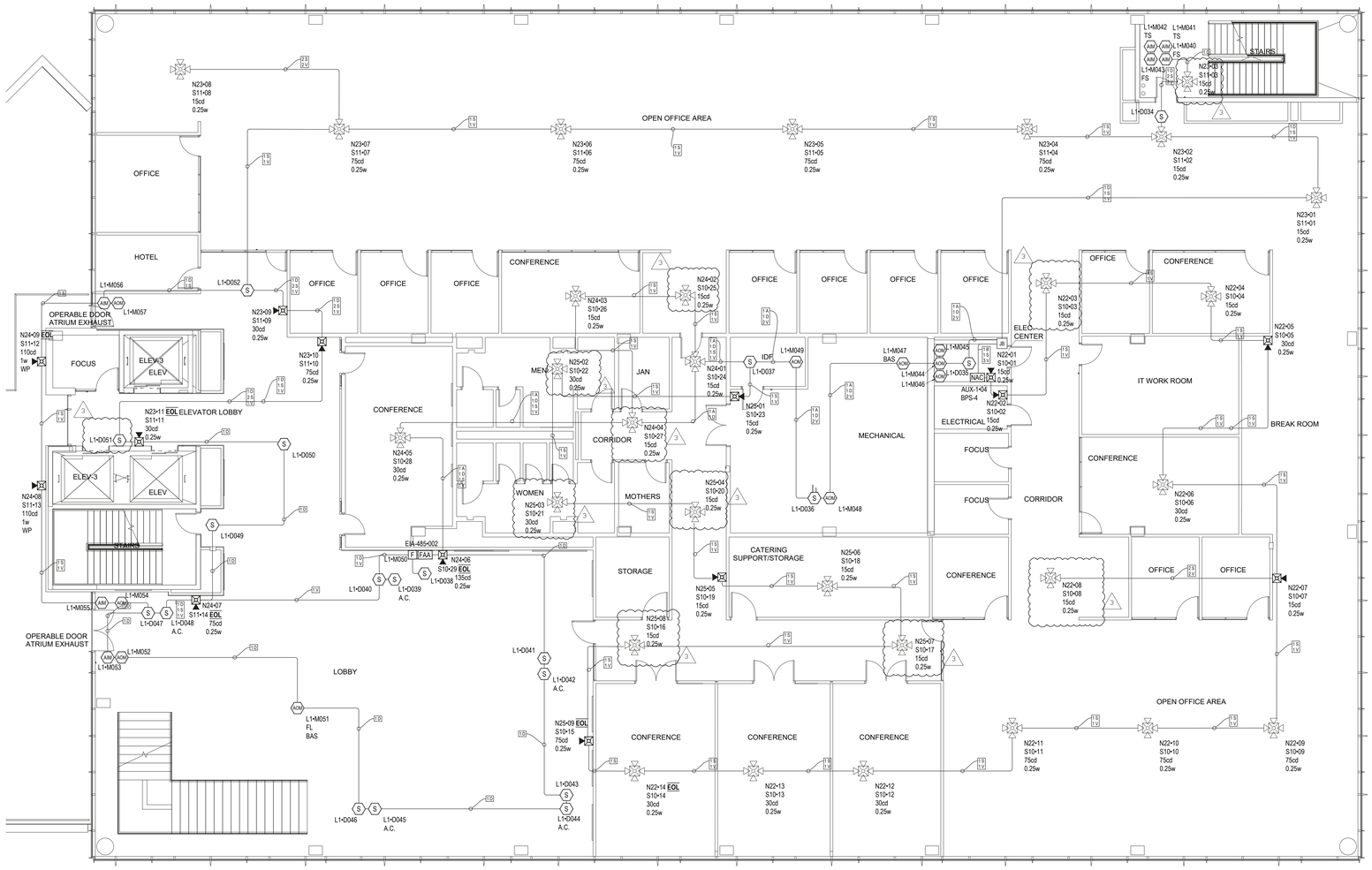
CABLE AND WIRE LEGEND

LABEL	AWG	DESCRIPTION
A	18	ANNUNCIATOR - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
B	14	NAC TRIGGER - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
D	16	SLC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
E	18	EAI - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
S	16	SPEAKER - 2 COND. SOLID COPPER FPLP ANALOG SHIELDED
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED

KEY PLAN

0 4' 8' 16'

SCALE: 1/8" = 1'-0"



OFFICE LEVEL 4

1/8"=1'-0"

LEGEND	
PM	POWER MONITORING
FL	FIELD LOCATED
BAS	BUILDING AUTOMATION SYSTEM
FS	WATERFLOW SWITCH
TS	TAMPER SWITCH
A.C.	ABOVE CEILING

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	NFS2-3030D FIRE ALARM CONTROL PANEL
NAC	10A REMOTE POWER SUPPLY
FAA	ANNUNCIATOR
ECCU	DVC ASSEMBLY
AMP	AMPLIFIER ASSEMBLY
WP	SPEAKER/STROBE OUTDOOR WALL MOUNT, WHITE
F	ALARM BELL (BY OTHERS)
	SPEAKER/STROBE WALL MOUNT, WHITE
WP	SPEAKER/STROBE OUTDOOR CEILING MOUNT, WHITE
	SPEAKER/STROBE CEILING MOUNT, WHITE
F	PULL STATION. DUAL-ACTION
AIM	MONITOR MODULE
AIM	DUAL MONITOR MODULE
AOM	RELAY MODULE W/ FLASHSCAN,TS
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R, WP
H	LOW-PROFILE 135°F FIXED THERMAL SENSOR. FLASHSCAN ONLY.
S	LOW-PROFILE PHOTOELECTRIC SMOKE DETECTOR. FLASHSCAN ONLY.

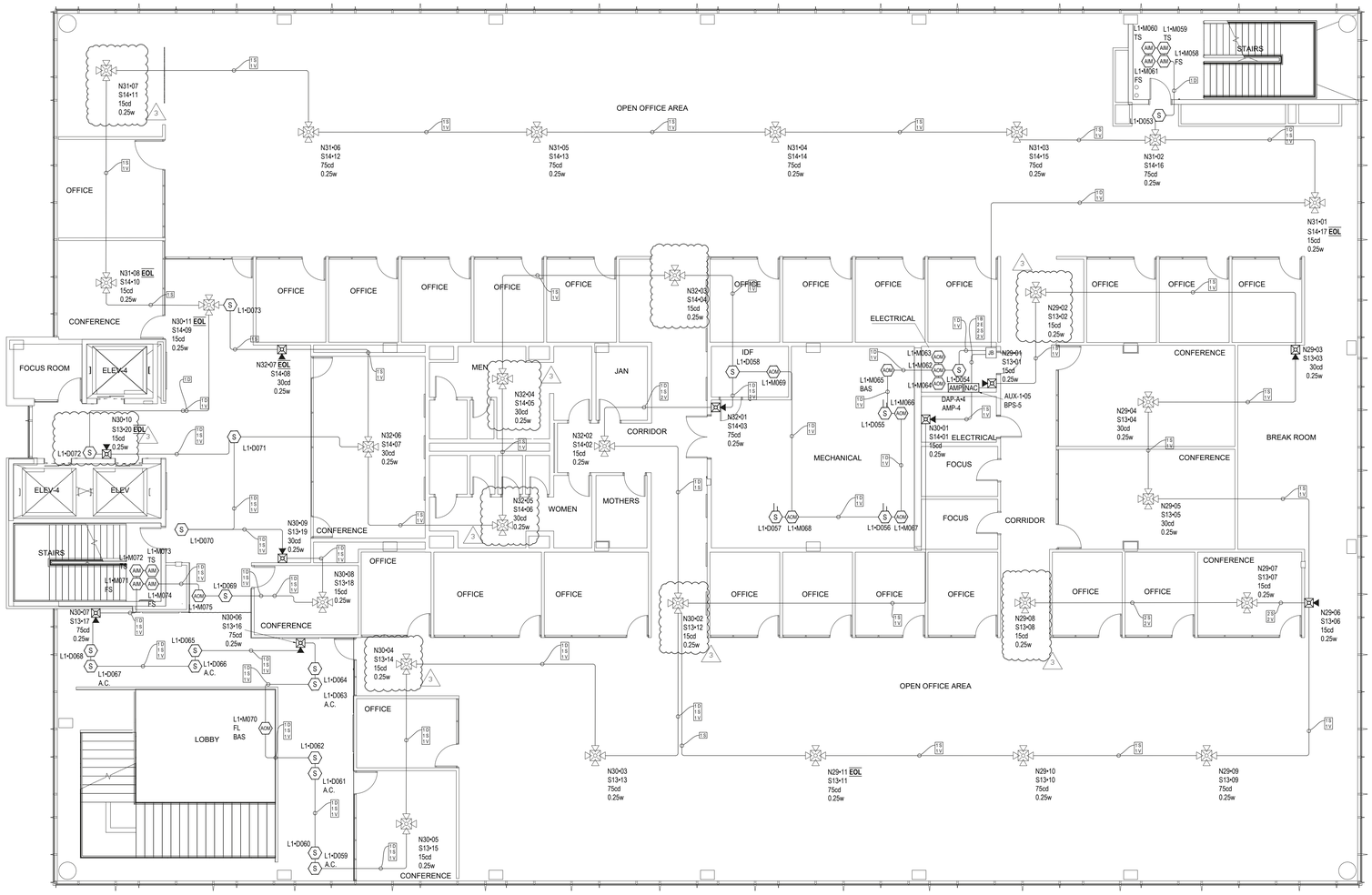
CABLE AND WIRE LEGEND

LABEL	AWG	DESCRIPTION
A	18	ANNUNCIATOR - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
B	14	NAC TRIGGER - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
D	16	SLC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
E	18	EAI - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
S	16	SPEAKER - 2 COND. SOLID COPPER FPLP ANALOG SHIELDED
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED

KEY PLAN

0 4' 8' 16'

SCALE: 1/8" = 1'-0"



OFFICE LEVEL 5
1/8"=1'-0"

LEGEND	
PM	POWER MONITORING
FL	FIELD LOCATED
BAS	BUILDING AUTOMATION SYSTEM
FS	WATERFLOW SWITCH
TS	TAMPER SWITCH
A.C.	ABOVE CEILING

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	NFS2-3030D FIRE ALARM CONTROL PANEL
NAC	10A REMOTE POWER SUPPLY
FAA	ANNUNCIATOR
ECCU	DVC ASSEMBLY
AMP	AMPLIFIER ASSEMBLY
WP	SPEAKER/STROBE OUTDOOR WALL MOUNT, WHITE
F	ALARM BELL (BY OTHERS)
	SPEAKER/STROBE WALL MOUNT, WHITE
WP	SPEAKER/STROBE OUTDOOR CEILING MOUNT, WHITE
	SPEAKER/STROBE CEILING MOUNT, WHITE
F	PULL STATION. DUAL-ACTION
AIM	MONITOR MODULE
AIM	DUAL MONITOR MODULE
AOM	RELAY MODULE W/ FLASHSCAN,TS
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R, WP
H	LOW-PROFILE 135°F FIXED THERMAL SENSOR. FLASHSCAN ONLY.
S	LOW-PROFILE PHOTOELECTRIC SMOKE DETECTOR. FLASHSCAN ONLY.

CABLE AND WIRE LEGEND

LABEL	AWG	DESCRIPTION
A	18	ANNUNCIATOR - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
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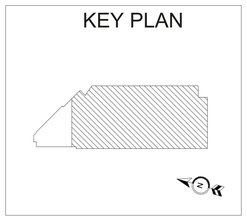
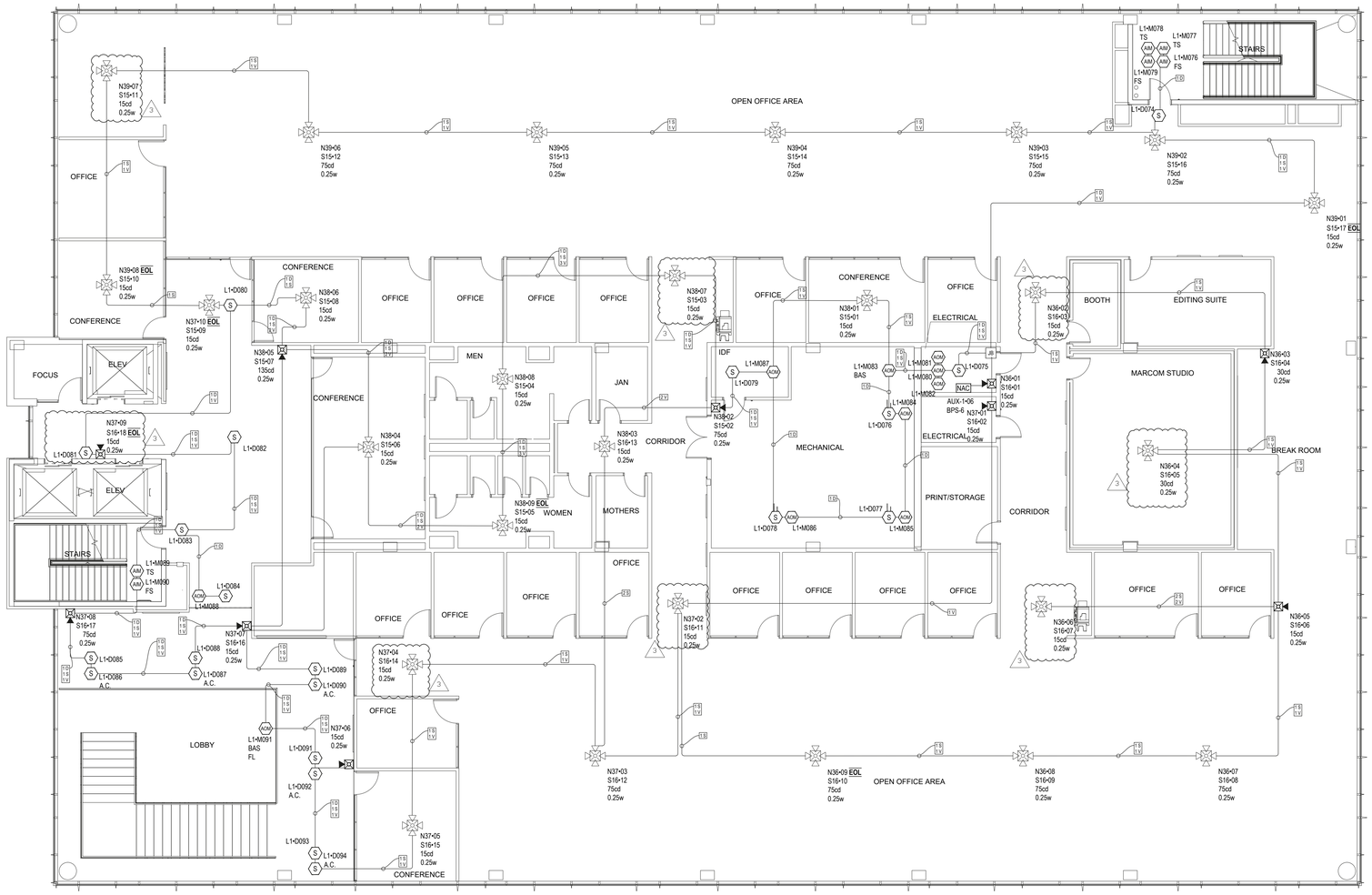
D	16	SLC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
E	18	EAI - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
S	16	SPEAKER - 2 COND. SOLID COPPER FPLP ANALOG SHIELDED
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED

KEY PLAN



0 4' 8' 16'

SCALE: 1/8" = 1'-0"



OFFICE LEVEL 6
1/8"=1'-0"

LEGEND	
PM	POWER MONITORING
FL	FIELD LOCATED
BAS	BUILDING AUTOMATION SYSTEM
FS	WATERFLOW SWITCH
TS	TAMPER SWITCH
A.C.	ABOVE CEILING

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	NFS2-3030D FIRE ALARM CONTROL PANEL
NAC	10A REMOTE POWER SUPPLY
FAA	ANNUNCIATOR
ECCU	DVC ASSEMBLY
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	SPEAKER/STROBE WALL MOUNT, WHITE
WP	SPEAKER/STROBE OUTDOOR CEILING MOUNT, WHITE
	SPEAKER/STROBE CEILING MOUNT, WHITE
F	PULL STATION. DUAL-ACTION
AIM	MONITOR MODULE
AIM	DUAL MONITOR MODULE
ACM	RELAY MODULE W/ FLASHSCAN,TS
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R
S	INTELLIGENT NON-RELAY PHOTOELECTRIC DUCT DETECTOR/FSP-951R, WP
H	LOW-PROFILE 135°F FIXED THERMAL SENSOR. FLASHSCAN ONLY.
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CABLE AND WIRE LEGEND

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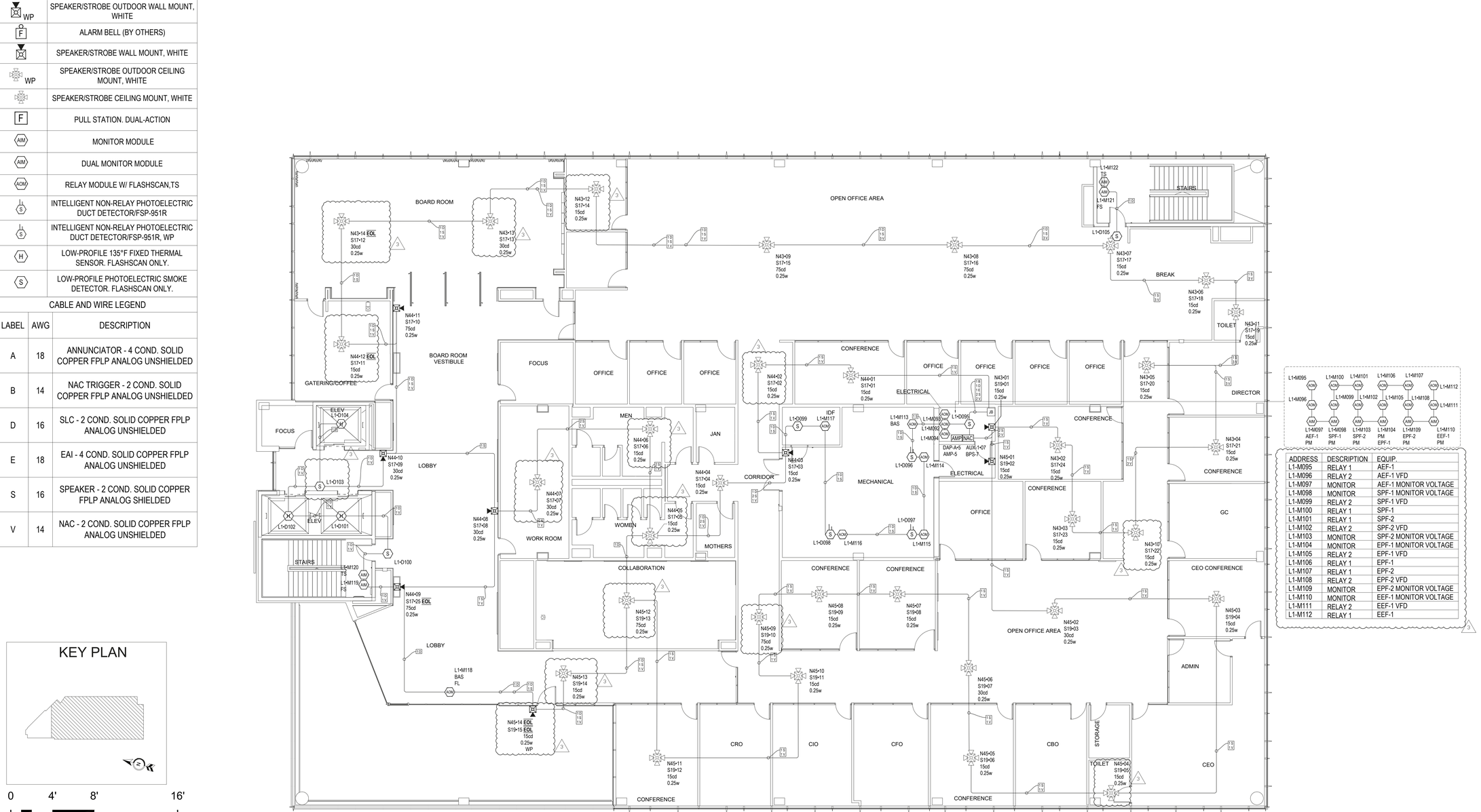
D	16	SLC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
E	18	EAI - 4 COND. SOLID COPPER FPLP ANALOG UNSHIELDED
S	16	SPEAKER - 2 COND. SOLID COPPER FPLP ANALOG SHIELDED
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED



ADDRESS	DESCRIPTION	EQUIP.
L1-M095	RELAY 1	AEF-1
L1-M096	RELAY 2	AEF-1 VFD
L1-M097	MONITOR	AEF-1 MONITOR VOLTAGE
L1-M098	MONITOR	SPF-1 MONITOR VOLTAGE
L1-M099	RELAY 2	SPF-1 VFD
L1-M100	RELAY 1	SPF-1
L1-M101	RELAY 1	SPF-2
L1-M102	RELAY 2	SPF-2 VFD
L1-M103	MONITOR	SPF-2 MONITOR VOLTAGE
L1-M104	MONITOR	EPF-1 MONITOR VOLTAGE
L1-M105	RELAY 2	EPF-1 VFD
L1-M106	RELAY 1	EPF-1
L1-M107	RELAY 1	EPF-2
L1-M108	RELAY 2	EPF-2 VFD
L1-M109	MONITOR	EPF-2 MONITOR VOLTAGE
L1-M110	MONITOR	EEF-1 MONITOR VOLTAGE
L1-M111	RELAY 2	EEF-1 VFD
L1-M112	RELAY 1	EEF-1

KEY PLAN

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

OFFICE LEVEL 7
1/8"=1'-0"

LEGEND	
PM	POWER MONITORING
FL	FIELD LOCATED
BAS	BUILDING AUTOMATION SYSTEM
FS	WATERFLOW SWITCH
TS	TAMPER SWITCH
A.C.	ABOVE CEILING

DEVICE LEGEND

SYMBOL	DESCRIPTION
FACP	NFS2-3030D FIRE ALARM CONTROL PANEL
NAC	10A REMOTE POWER SUPPLY
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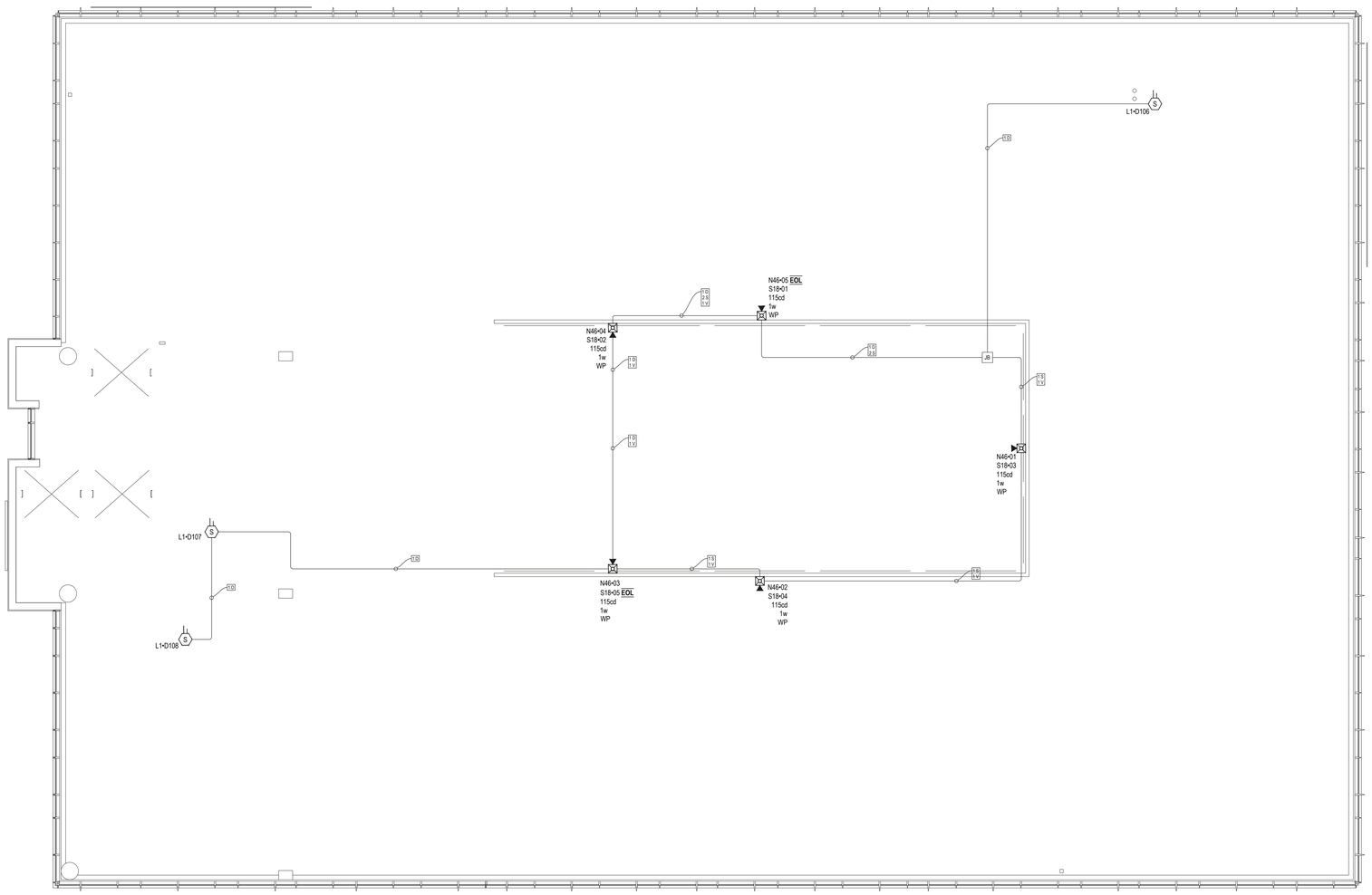
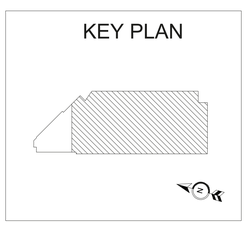
V	14	NAC - 2 COND. SOLID COPPER FPLP ANALOG UNSHIELDED



ROOF
1/8"=1'-0"

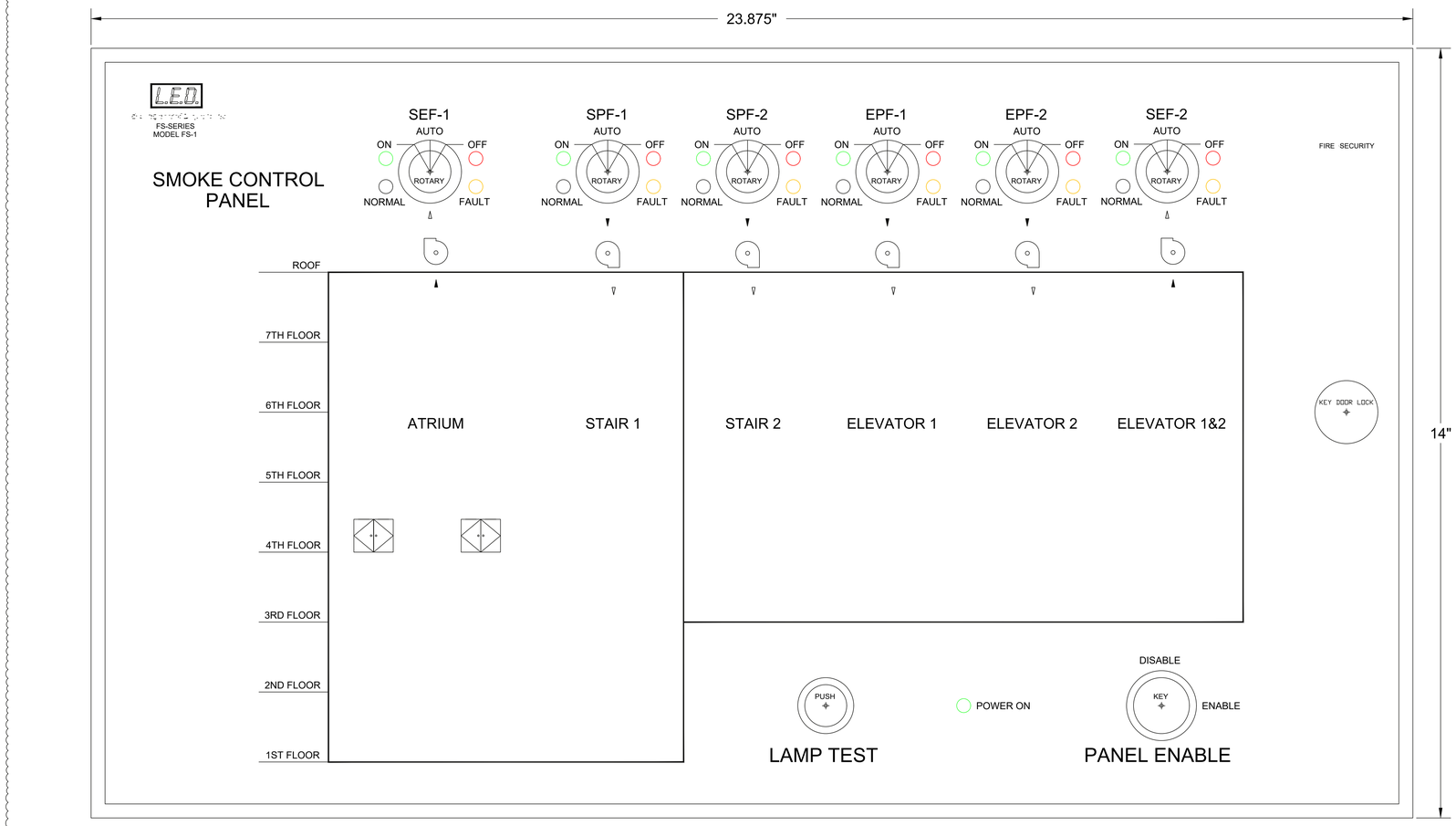
KEY PLAN



0 4' 8' 16'

SCALE: 1/8" = 1'-0"

LEGEND	
PM	POWER MONITORING
FL	FIELD LOCATED
BAS	BUILDING AUTOMATION SYSTEM
FS	WATERFLOW SWITCH
TS	TAMPER SWITCH
A.C.	ABOVE CEILING



Smoke Control Sequence of Operations

Fire Alarm Initiating Device	Activation of Stairwell Pressurization Systems	Normal Building HVAC Shutdown	Activation of Atrium Exhaust System	Open Make-Up Air Openings on Level 4	Shutdown Corresponding Pressurization Fan	Alarm/ Supervisory Condition at FACP and FFSCP
Stair Smoke Detector in Approved Location	X	X				X
2x Atrium Smoke Detectors		X	X	X		X
Sprinkler Water-Flow	X	X	X	X		X
Manual Activation at FFSCP	X	X	X	X		X
Pressurization Fan Smoke Detector					X	X

NOTES

550 WEST

FIRE ALARM SYSTEM

[redacted]

SHEET INDEX

SHEET	DESCRIPTION
FA-00.0	FIRE ALARM TITLE SHEET
FA-00.1	FIRE ALARM CONTROL SEQUENCE OF OPERATIONS
FA-00.2	FIRE ALARM CONTROL PANEL DETAIL
FA-00.3	FIRE ALARM POINT TO POINT DETAILS
FA-14	FIRE ALARM PLAN - LEVEL 14

SCOPE OF WORK

TENANT IMPROVEMENT 14TH FLOOR CORRIDOR. NEW NOTIFICATION WHERE REQUIRED. NEW SMOKE DETECTORS IN EXISTING LOCATIONS. NO NEW MECHANICAL DEVICES.

FIRE ALARM CABLE LEGEND

CIRCUIT TYPE	DESIGNATION	DESCRIPTION	WIRE TYPE	CONDUCTOR AWG
IDC/CLASS B	A	AUDIBLE - SPEAKER, VOICE CIRCUIT	14/2 FPLP	(2) #14 AWG
SLC/CLASS B	C	SIGNAL LINE CIRCUIT (S.L.C.)	16/2 FPLP	(2) #16 AWG
NAC	V	NOTIFICATION APPLIANCE CIRCUIT	12/2 FPLP	(2) #12 AWG

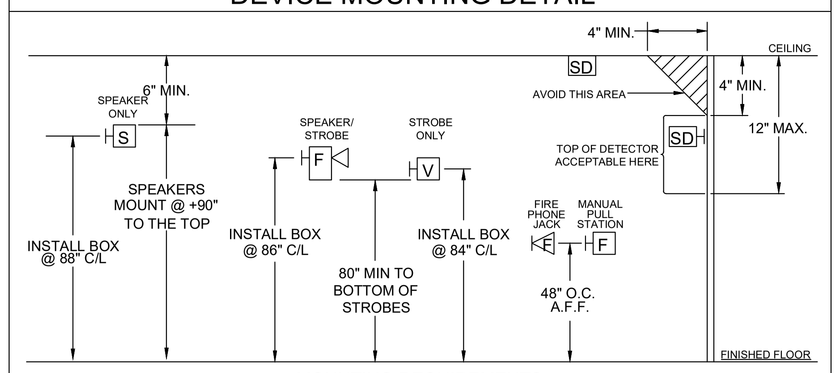
CABLE IS TO BE OPEN AIR CABLE SYSTEM INSTALLED IN A WORKMAN LIKE MANNER. SLC TO BE INSTALLED IN METALLIC FLEXIBLE CONDUIT.

NOTE: #CD = Candela setting. See Floor Plan, Riser Diagram, and Voltage Drop Calculation for quantity.
EX = Existing Device
EXRL = Relocated Existing Device
WP = Weather Proof

FIRE MARSHAL REQUIRED NOTES

1. THE INSTALLATION OF THE FIRE ALARM SYSTEM SHALL COMPLY WITH THE CALIFORNIA CODE OF REGULATIONS, TITLE 24, 2019 EDITION (PARTS 2,3,4 AND 9); CALIFORNIA BUILDING CODE, 2019; CALIFORNIA ELECTRICAL CODE,2019; CALIFORNIA MECHANICAL CODE, 2019; CALIFORNIA FIRE CODE, 2019 AND NFPA 72, 2016 EDITION. CITY OF SAN DIEGO TECHNICAL BULLETINS.
2. THE INSTALLATION OF ALL FIRE ALARM WIRING AND EQUIPMENT SHALL BE IN ACCORDANCE WITH C.E.C., ARTICLE 760, FIRE PROTECTIVE SIGNALING SYSTEMS.
3. ALL CONDUIT SIZES SHALL BE IN ACCORDANCE WITH C.E.C., CHAPTER 9 TABLES AND EXAMPLES ON CONDUIT FILLS.
4. ALL CONDUITS SHALL BE A MINIMUM OF 3/4" UNLESS OTHERWISE NOTED. CONDUIT FILL NOT TO EXCEED 40% PER N.E.C.
5. UPON COMPLETION OF THE INSTALLATION OF THE FIRE ALARM SYSTEM, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE PERFORMED IN THE PRESENCE OF THE CITY OF SAN DIEGO DEPUTY FIRE MARSHAL.
6. ALL CABLE NOT IN CONDUIT SHALL BE PLENUM RATED CABLE WHERE REQUIRED TO BE PLENUM RATED.
7. FIRE ALARM INSTALLER IN CHARGE OF THIS PROJECT MUST BE "STATE CERTIFIED" WITH THE DIVISION OF APPRENTICESHIP STANDARDS, AND SHALL FURNISH ID CARD UPON REQUEST OF THE SAN DIEGO DEPUTY FIRE MARSHAL.
8. THE VOICE INTELLIGIBILITY REQUIREMENTS OF NFPA 72 CHAPTERS 18 AND 24 WILL BE MET.
9. AUDIBLE SOUND LEVEL WILL BE AT LEAST 15 dBA ABOVE AMBIENT PER THE REQUIREMENTS OF NFPA 72 SECTION 18.4.3.1.
10. TOTAL SOUND PRESSURE LEVELS WILL NOT EXCEED 110 dBA PER THE REQUIREMENTS OF NFPA 72 SECTION 18.4.1.2.
11. THE FLASH OF STROBES IN THE SAME FIELD OF VIEW WILL BE SYNCHRONIZED AS REQUIRED IN NFPA 72 SECTION 18.5.5.4.2.
12. DRAWING STORAGE WILL BE PROVIDED NEXT TO THE REQUIRED WORK TABLE.

DEVICE MOUNTING DETAIL



MOUNTING REQUIREMENTS
SCALE: NONE

APPLICABLE CODES

DESIGN AND CONSTRUCTION SHALL CONFORM TO ALL FEDERAL, STATE AND LOCAL BUILDING CODES AND ORDINANCES TO INCLUDE BUT NOT LIMITED TO THE MOST CURRENT VERSION OF THE FOLLOWING DOCUMENTS:

- 2019 CALIFORNIA BUILDING CODE PART 2 OF TITLE 24
- 2019 CALIFORNIA ELECTRIC CODE PART 3 OF TITLE 24
- 2019 CALIFORNIA MECHANICAL CODE PART 4 OF TITLE 24
- 2019 CALIFORNIA FIRE CODE PART 9 OF TITLE 24
- ACCESSIBILITY REGULATIONS AS PRESCRIBED BY THE 2016 CALIFORNIA BUILDING CODE, CHAPTER 11
- AMERICANS WITH DISABILITIES ACT GUIDELINES, AS AMENDED, 28 CFR PART 36 AND 36, CFR 1911.
- ALL CODES AND ORDINANCES ADOPTED BY THE CITY OF SAN DIEGO.

PROJECT DATA

PROJECT NAME:	550 WEST FIRE ALARM CORRIDOR TI
PROJECT ADDRESS:	550 WEST C STREET SAN DIEGO, CA 92101
ASSESSOR'S PARCEL NUMBER:	533-481-0800
LEGAL DESCRIPTION:	BLK 5/
ZONE:	ZONE
BUILDING USE/OCCUPANCY:	EXISTING B OCC, PROPOSED B OCC - NO CHANGE IN OCC
CONSTRUCTION TYPE:	TYPE II-A, FULLY SPRINKLERED
EXISTING BUILDING AREA:	1.146 SQ. FT.
NUMBER OF FLOORS:	21

120VAC EMERGENCY POWER

ALL FIRE ALARM CONTROL PANELS AND BOOSTER POWER SUPPLIES TO BE CONNECTED TO POWER GENERATOR FOR EMERGENCY POWER.

VICINITY MAP

EMERGENCY VOICE EVACUATION MESSAGE

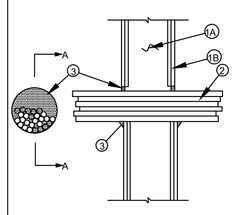
(VOICE MESSAGE WILL BE PRECEEDED BY A TEMPORAL TONE)
EMERGENCY VOICE EVACUATION MESSAGE
ATTENTION! ATTENTION!
AN EMERGENCY HAS BEEN REPORTED IN THIS BUILDING.
PLEASE CEASE OPERATIONS AND LEAVE THE BUILDING UTILIZING
THE NEAREST EXIT OR FIRE EXIT STAIRWAY.
DO NOT USE THE ELEVATORS.

FIRE ALARM SYMBOL LIST

QTY.	SYMBOL	DEVICE DESCRIPTION	MODEL #	Manufacturer	ELEV.	MOUNTING	CSFM LISTING #
EX	FATC	FIRE ALARM TERMINAL CABINET	EST3	EDWARDS	+54"		7165-1657:0186
EX	NAC	REMOTE BOOSTER POWER SUPPLY, 10A	BPS10A	EDWARDS	+54"		7300-1657:0229
EX	F	FIRE ALARM PULL STATION	SIGA-278	EDWARDS	+48"	4Sdeep/1gang	7150-1657:0255
EX	AM CT2	DUAL INPUT MODULE	SIGA-CT2	EDWARDS		4Sdeep/1gang	7300-1657:0121
EX	CR CR	CONTROL RELAY MODULE	SIGA-CR	EDWARDS		4Sdeep/1gang	7300-1657:0121
EX	D SD	SUPERDUCT DETECTOR	SIGA-SD	EDWARDS			3242-1657:0223
EX		SUPERDUCT, AIR SAMPLE TUBE, 60 INCH	SD-T60	EDWARDS			-
8	S OSD	INTELLIGENT OPTICAL SMOKE DETECTOR	SIGA-OSD W/SIGA-SB4 BASE	EDWARDS	CLG	4S/3-0	7272-1657:0511/7300-1657:0222
EX	S OSD	INTELLIGENT OPTICAL SMOKE DETECTOR	SIGA-OSD W/SIGA-SB4 BASE	EDWARDS	CLG	4S/3-0	7272-1657:0511/7300-1657:0222
6	SW	SPEAKER STROBE,CEILING, WHITE	ELSPSTWC	EATON WHEELOCK	CLG	4Sdeep	7320-0785:0505
X	SW	SPEAKER STROBE,CEILING, WHITE	ELSPSTWC	EATON WHEELOCK	CLG	4Sdeep	7320-0785:0505
1	S	SPEAKER, CEILING, WHITE	ELSPKWC	EATON WHEELOCK	CLG	4Sdeep	7320-0785:0505
EX	DH	DOOR HOLDER	-	EXISTING BY OTHERS			-

FIRE STOP DETAIL

SYSTEM NO. W-L-3110
F RATINGS - 1 AND 2 HR (SEE ITEM 1)
T RATING - 0 HR



SECTION A-A

1. Wall Assembly -- The 1 or 2 hr fire rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs -- Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 3-1/2 in. wide and spaced max 24 in. OC.
   B. Wallboard, Gypsum* -- Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Max diam of opening is 4-1/2 in. The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Cables -- Max 4 in. diam tight bundle of cables installed eccentrically or concentrically in opening. The annular space between the bundled cables and the periphery of the opening to be min. 0 in. (point contact) to a maximum 1/2 in. Cables may or may not be routed through flexible steel conduit with or without vinyl coating. Cables to be rigidly supported on both sides of wall assembly. Any combination of the following types and sizes of cables may be used:
   A. Max 150 pair No. 24 AWG (or smaller) copper conductor with polyvinyl chloride (PVC) insulation and jacket.
   B. Max 1/C 350 kcmil (or smaller) copper conductor cable with cross-linked polyethylene (XLPE) jacket.
   C. Max 3/C No. 2/0 AWG (or smaller) aluminum or copper conductor cable with XLPE insulation and PVC jacket.
   D. Max 7/C No. 12 AWG (or smaller) copper conductor cable with PVC insulation and jacket.
   E. Max No. 18 AWG RG 6/U coaxial cable with PVC insulation and jacket.
   F. Max 3/C with ground No. 12 AWG (or smaller) NM cable with PVC insulation and jacket
   G. Through Penetrating Product* -- Max 3/C No. 2 AWG (or smaller) aluminum or steel clad Armored Cable* or aluminum or steel clad Metal Clad Cable* with copper conductors. ALFLEX CORP
3. Fill, Void or Cavity Materials* - Caulk -- Min 5/8 in. thickness of fill material applied within annulus, flush with each surface of wall. Min 5/8 in. thickness of fill material applied into interstices of cables on both sides of wall.
   MINNESOTA MINING & MFG CO --CP 25WB+--

*Bearing the UL Classification Marking

MONITORING CONTACT INFORMATION

ALARM SERVICE COMPANY AND SERVICE CENTER : (257057-001)
GENERAL MONITORING SERVICES, INC
DBA-GENERAL MONITORING SERVICES
17951 LIONS CIRCLE
HUNTINGTON BEACH, CA 92647
1-800-634-3915
FILE-VOL. NO. CCN
S8126-1 UUFX
LISTING CATEGORY
[SIGNAL AND FIRE ALARM EQUIPMENT AND SERVICES]
(PROTECTIVE SIGNALING SERVICES) CENTRAL STATION
NOTE:
THE BUILDING OWNER HAS THE OPTION TO CONTRACT A MONITORING COMPANY OF THEIR CHOICE. IF THE OWNER TO CHOOSES TO CONTRACT A DIFFERENT MONITORING COMPANY, PLANS PERMITS AND SPECIAL DIALERS SHALL BE PROVIDED BY THAT MONITORING COMPANY.

FIRE ALARM SYSTEM INPUTS

FIRE ALARM SYSTEM OUTPUTS

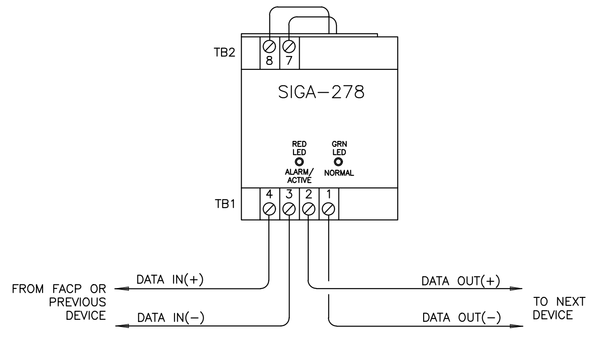
				CONTROL UNIT ANNUNCIATION					TRANSMISSION TO SUPERVISING STATION			NOTIFICATION				REQUIRED FIRE SAFETY FUNCTION									SUPPLEMENTARY				
																ELEVATOR CONTROL				MECHANICAL		DOOR CONTROL					STAIR PRESSURIZATION			
				ACTIVATE COMMON **ALARM** AUDIBLE AND VISUAL INDICATORS AT FIRE ALARM CONTROL UNIT(s)	ACTIVATE COMMON **SUPERVISORY** AUDIBLE AND VISUAL INDICATORS AT CONTROL	ACTIVATE COMMON **TROUBLE** AUDIBLE AND VISUAL INDICATORS AT CONTROL UNIT(s)	ANNUNCIATE CHANGE OF STATUS ON CONTROL UNIT LCD DISPLAY	ACTIVATE APPROPIATE EVENT AND LOCATION INDICATORS ON ZONNING ANNUNCIATOR PANEL	TRANSMIT FIRE **ALARM** SIGNAL TO CENTRAL STATION	TRANSMIT **SUPERVISORY** SIGNAL TO CENTRAL STATION	TRANSMIT **TROUBLE** SIGNAL TO CENTRAL STATION	ACTIVATE EVACUATION VOICE MESSAGE ON FLOOR OF INCIDENT, FLOOR ABOVE AND FLOOR BELOW	ACTIVATE VISUAL EVACUATION SIGNALS ON FLOOR OF INCIDENT, FLOOR ABOVE AND FLOOR BELOW	ACTIVATE EVACUATION VOICE MESSAGE AND VISUAL EVACUATION SIGNALS FOR ENTIRE BUILDING	ACTIVATE EXTERIOR WATERFLOW BELL	RECALL ELEVATOR TO PRIMARY DESIGNATED LANDING	RECALL ELEVATOR TO ALTERNATE DESIGNATED LANDING	ACTIVATE THE FIREMAN'S HAT FLASH IN ELEVATOR CAR	ACTIVATE SHUNT TRIP FOR ALL ASSOCIATED ELEVATORS WITHIN THE SAME MACHINE ROOM SPACE	SHUTDOWN **ALL** HVAC SUPPLY FANS WHERE REQUIRED BY CODE	CLOSE **ALL** SMOKE FIRE DAMPERS (SFDs)	RELEASE MAGNETICALLY HELD-OPEN DOORS	RELEASE ASSOCIATED EGRESS DOOR LOCKING MECHANISMS	CLOSE WON DOORS	CLOSE SMOKE GUARDS AT ELEVATOR LOBBIES	CLOSE FIRE FLY DOORS **(NOTE 2)**	INITIATE STAIRWAY PRESSURIZATION SEQUENCE (ALL STAIRS - AUTOMATIC ACTIVATION)				
ALARM INITIATING DEVICES	**FIRE ALARM**	MANUAL PULL STATION *	**YES**			**YES**	**YES**	**YES**						**YES**						**YES**	**YES**	**YES**	**YES**	**YES**	**YES**		**YES**			MANUAL PULL STATION	**FIRE ALARM**	**ALARM INITIATING DEVICES**
		SPRINKLER WATERFLOW *	**YES**			**YES**	**YES**	**YES**				**YES**	**YES**		**YES**						**YES**	**YES**	**YES**	**YES**	**YES**	**YES**		**YES**			SPRINKLER WATERFLOW		
		AREA SMOKE DETECTOR *	**YES**			**YES**	**YES**	**YES**				**YES**	**YES**								**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**			AREA SMOKE DETECTOR		
		AREA HEAT DETECTOR *	**YES**			**YES**	**YES**	**YES**				**YES**	**YES**								**YES**	**YES**	**YES**	**YES**	**YES**	**YES**		**YES**			AREA HEAT DETECTOR		
	ELEVATORS	ELEVATOR LOBBY SMOKE DETECTOR - PRIMARY DESIGNATED LANDING *	**YES**			**YES**	**YES**	**YES**				**YES**	**YES**				**YES**				**YES**	**YES**	**YES**	**YES**	**YES**	**YES**		**YES**			ELEVATOR LOBBY SMOKE DETECTOR - DESIGNATED LANDING	**ELEVATORS**	
		ELEVATOR LOBBY SMOKE DETECTOR - ALL OTHER LEVELS *	**YES**			**YES**	**YES**	**YES**				**YES**	**YES**			**YES**					**YES**	**YES**	**YES**	**YES**	**YES**	**YES**		**YES**			ELEVATOR LOBBY SMOKE DETECTOR - ALL OTHER LEVELS		
		ELEVATOR MACHINE ROOM SMOKE *	**YES**			**YES**	**YES**	**YES**				**YES**	**YES**			**YES**		**YES**			**YES**	**YES**	**YES**	**YES**	**YES**	**YES**		**YES**			ELEVATOR MACHINE ROOM SMOKE		
		ELEVATOR TOP OF SHAFT SMOKE DETECTOR *	**YES**			**YES**	**YES**	**YES**				**YES**	**YES**			**YES**		**YES**			**YES**	**YES**	**YES**	**YES**	**YES**	**YES**		**YES**			ELEVATOR TOP OF SHAFT SMOKE DETECTOR		
		ELEVATOR MACHINE ROOM HEAT *	**YES**			**YES**	**YES**	**YES**				**YES**	**YES**						**YES**		**YES**	**YES**	**YES**	**YES**	**YES**	**YES**		**YES**			ELEVATOR MACHINE ROOM HEAT		
		ELEVATOR TOP OF SHAFT HEAT *	**YES**			**YES**	**YES**	**YES**				**YES**	**YES**						**YES**		**YES**	**YES**	**YES**	**YES**	**YES**	**YES**		**YES**			ELEVATOR TOP OF SHAFT HEAT		
SUPERVISORY INITIATING DEVICES	**SUPERVISORY**	DUCT MOUNTED SMOKE DETECTOR - SUPPLY FAN		**YES**		**YES**	**YES**		**YES**																					DUCT MOUNTED SMOKE DETECTOR - SUPPLY FAN	**SUPERVISORY**	**SUPERVISORY INITIATING DEVICES**
		DUCT MOUNTED SMOKE DETECTOR - SMOKE FIRE DAMPER *		**YES**		**YES**	**YES**		**YES**																					DUCT MOUNTED SMOKE DETECTOR - SMOKE FIRE DAMPER		
		SPRINKLER / STANDPIPE CONTROL VALVE *		**YES**		**YES**	**YES**		**YES**																					SPRINKLER / STANDPIPE CONTROL VALVE		
		CARBON MONOXIDE DETECTOR *		**YES**		**YES**			**YES**																					CARBON MONOXIDE DETECTOR		
		120VAC SHUNT TRIP CONTROL CIRCUIT *		**YES**		**YES**			**YES**																					120VAC SHUNT TRIP CONTROL CIRCUIT		
	SMOKE CONTROL	STAIR PRESSURIZATION FAN - POWER FAILURE *		**YES**		**YES**			**YES**																					STAIR PRESSURIZATION FAN - POWER FAILURE	**SMOKE CONTROL**	
		STAIR PRESSURIZATION FAN - FAIL TO START *		**YES**		**YES**			**YES**																					STAIR PRESSURIZATION FAN - FAIL TO START		
																														GARAGE SUPPLY / EXHAUST FAN - POWER FAILURE		
TROUBLE CONDITIONS		SYSTEM WIRING OPEN (SLC, NAC, IDC, NETWORK) *			**YES**	**YES**				**YES**																				SLC LOOP OPEN	**TROUBLE CONDITIONS**	
		SYSTEM WIRING SHORT (SLC, NAC, IDC, NETWORK) *			**YES**	**YES**				**YES**																				SLC LOOP SHORT		
		SYSTEM WIRING GROUND (SLC, NAC, IDC, NETWORK)			**YES**	**YES**				**YES**																				SLC LOOP EARTH GROUND		
		FIRE CONTROL UNIT FAULT (AC FAIL / LOW BATTERY / GROUND FAULT)			**YES**	**YES**				**YES**																				FACP LOW BATTERY		
		FIRE CONTROL UNIT COMPONENT FAILURE			**YES**	**YES**				**YES**																				FACP AC FAIL		
		BOOSTER PANEL TROUBLE (AC FAIL / LOW BATTERY / GROUND FAULT)			**YES**	**YES**				**YES**																				BOOSTER PANEL TROUBLE (AC FAIL / LOW BATTERY)		

NOTES:

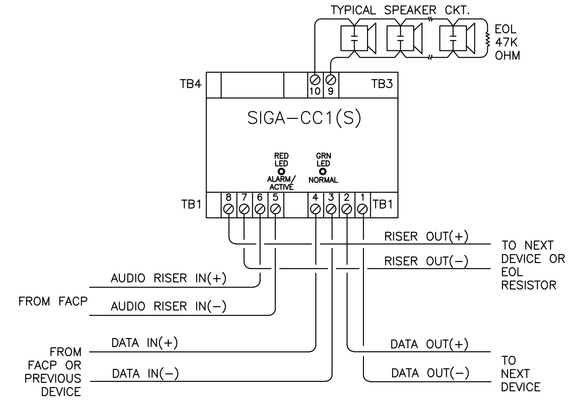
* Exisitng to remain, not in current project scope

NOTES

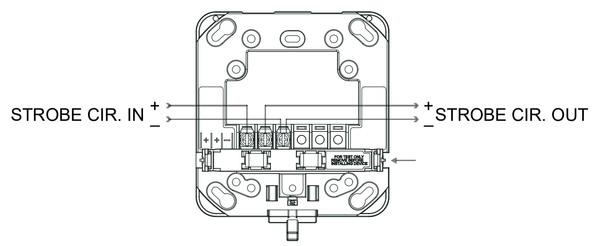
NOTES



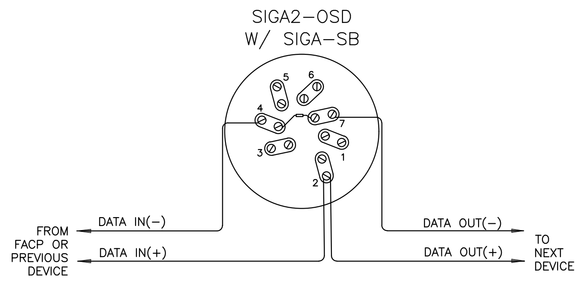
MANUAL PULL STATION SINGLE
STAGE WIRING DIAGRAM
N.T.S.



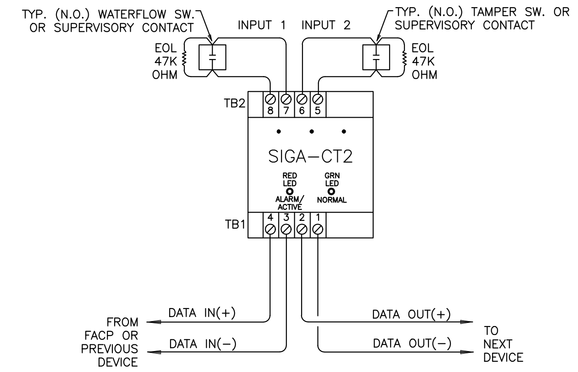
SINGLE INPUT RISER
MODULE WIRING DIAGRAM
N.T.S.



GENESIS GC SERIES LED STROBE
N.T.S.



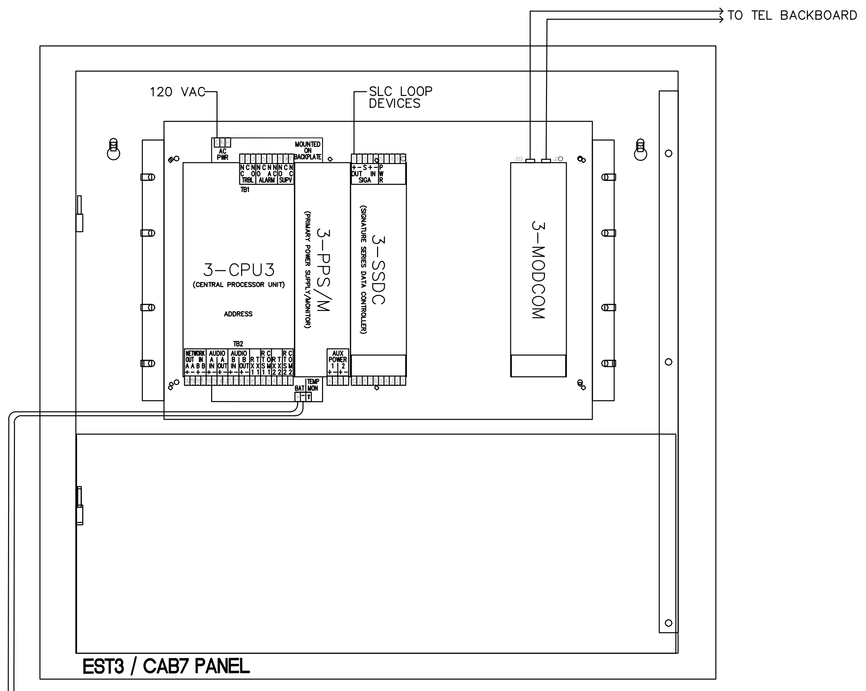
INTELLIGENT SMOKE DETECTOR
BASE WIRING DIAGRAM
N.T.S.

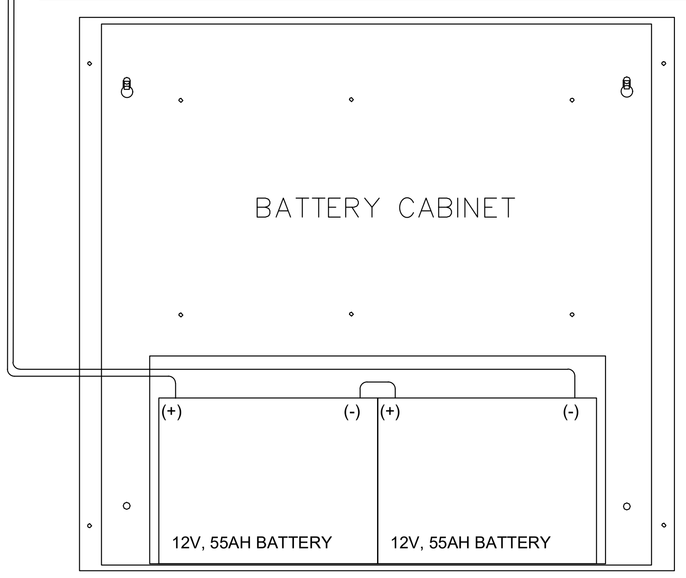


DUAL INPUT MODULE FOR TAMPER SWITCH
AND WATER FLOW WIRING DIAGRAM
N.T.S.

EST3 PANEL

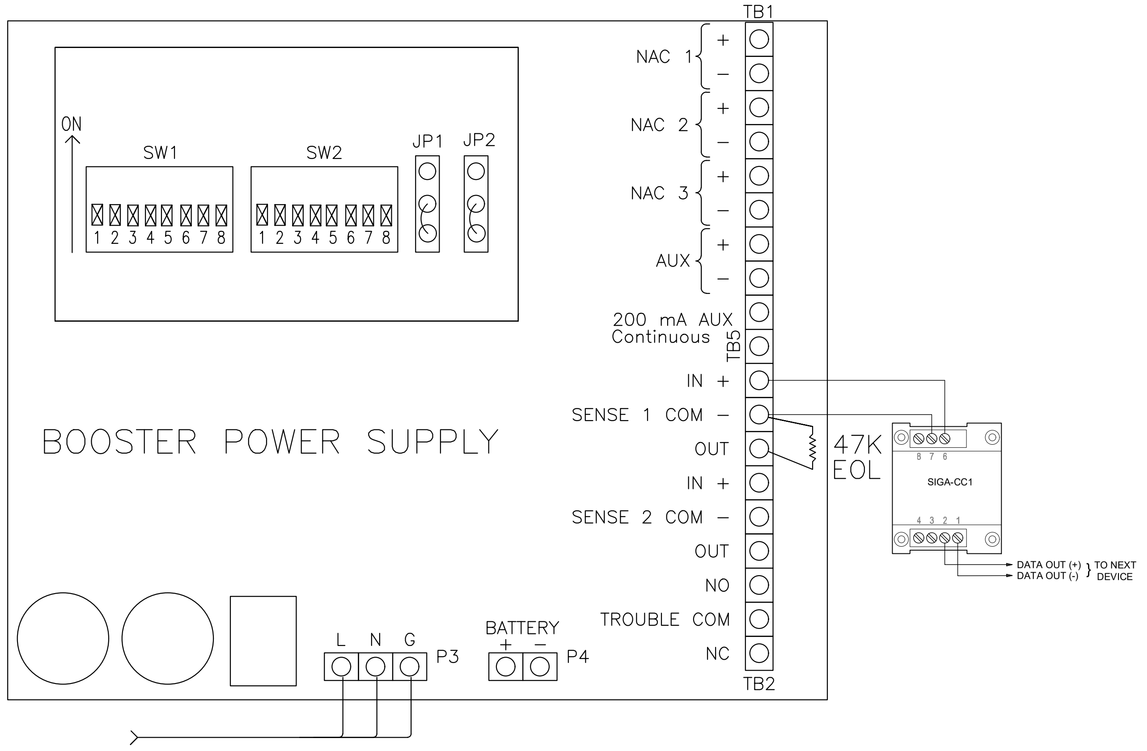
FACU

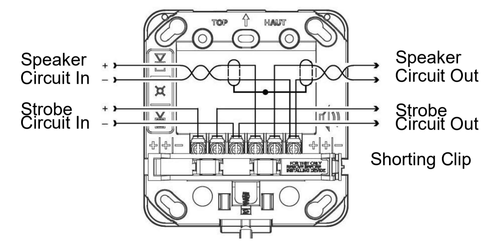




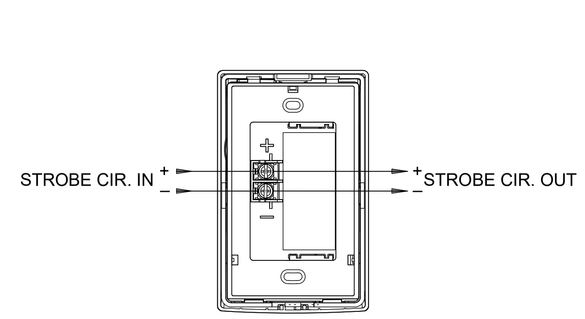
BPS6A/10A

FAPS





GENESIS GCS SERIES LED SPEAKER-STROBES
N.T.S.



GENESIS G1 SERIES LED STROBE
N.T.S.

NOTES

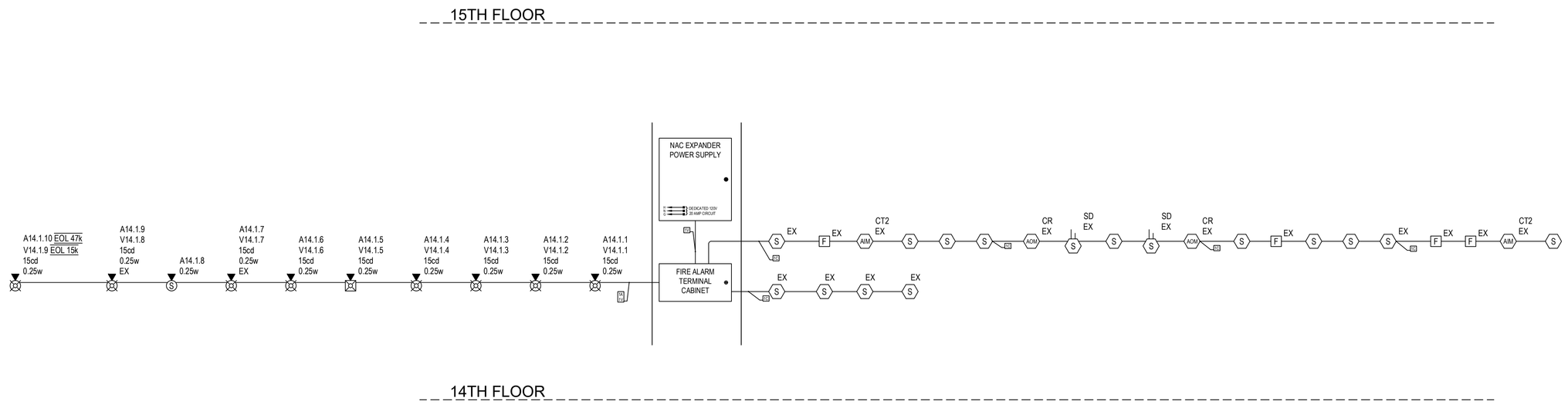
Project: 550 WEST CORR			Job #:4221320/4221321		
FACP CALCULATION (EX EST3)					
ALL EXISTING/NO ADDED COMPONENTS	Standby Current in mA			Alarm Current in mA	
Device or Control	Qty.	Current	Total	Qty.	Current	Total
3-CPU3 (Central Processor Unit)	1	155.000	155.000	1	155.000	155.000
3-LCD (Liquid Crystal Display for 3-CPU3)	1	40.000	40.000	1	42.000	42.000
3-SDDC1 (Dual Signature Driver Ckt.) NOTE 1	2	264.000	528.000	2	336.000	672.000
3-RS485B (Network/Audio Circuit)	1	98.000	98.000	1	98.000	98.000
3-RS232 (Communication Card)	1	58.000	58.000	1	58.000	58.000
3-PPS/M (Primary Power Supply)		INCLUDED			INCLUDED	
3-MODCOM (Modem Communicator)	1	60.000	60.000	1	95.000	95.000
3-ASU4 (Audio Source Unit)	1	80.000	80.000	1	80.000	80.000
3-ZA40A (40 Watt Zone Audio Amp)	5	62.000	310.000	5	2480.000	12400.000
3-12/S1GY (12 Switches, 1 Green, 1 Yellow)	1	2.000	2.000	1	36.000	36.000
		Standby Total	1331.000		Alarm Total	13646.000
Standby:	1331 mA X	24 hrs. =	31.94 A			
Alarm:	13646 mA X	0.25 hrs. =	3.41 A			
Sub Total:			35.36 A			
Surplus:		20%	7.07 A			
Total Requirement:			42.43 Ah			
Battery Supplied: 2ea.	12V SEALED LEAD ACID		65 Ah			
	BATTERIES WIRED IN SERIES					
Spare:			34.73%			
	MAX CHARGING CAPACITY - 65 Ah					
NOTE 1 - Current Shown For a Fully Loaded Loop						

Project: 550 West Corridor 14th Fl			Job Number: 4221846		
FAPS-V14 CALCULATION (EX BPS10A) ON 14th Floor					
	Standby Current in mA			Alarm Current in mA	
Device or Control	Qty.	Current	Total	Qty.	Current	Total
EX BPS10A (Booster Power Supply)	1	70.000	70.000	1	270.000	270.000
V14.1	1	0.000	0.000	1	176.000	176.000
V14.2	1	0.000	0.000	1	0.000	0.000
V14.3	1	0.000	0.000	1	0.000	0.000
V14.4	1	0.000	0.000	1	0.000	0.000
		Standby Total	70.000		Alarm total	446.000
Standby:	70 mA x	24 hrs.	1.68 Ah			
Alarm:	446 mA x	0.25 hrs.	0.11 Ah			
Sub Total:			1.79 Ah			
Surplus:		20%	0.36 Ah			
Total Requirement:			2.15 Ah			
Battery Supplied: 2ea.	12V SEALED LEAD ACID		7 Ah			
	BATTERIES WIRED IN SERIES					
Spare:			69.29%			
	MAX CHARGING CAPACITY - 24 Ah					

Point to Point Method

Project Name	550 West Corridor 14th Fl					CIRCUIT IS WITHIN LIMITS				Notes:	
Date	14/09/2022					AMPS ARE WITHIN LIMITS				Wire resistance is doubled in the calculations	
Circuit Number	V14.1					Totals		Voltage		for two wires (Positive and Negative).	
Area Covered	Corridor					Current	Distance	Drop		The voltage calculated to the last device must	
Nominal System Voltage		20.40				0.176	370	0.12		not be lower than the manufactures listed	
Minimum Device Voltage		16.00				End of Line Voltage		20.28		minimum operating voltage	
Minimum Cricuit Voltage		16.88	Wire	Ohm's		Percent Drop		0.60%		(ie: rated operating voltage 16-33 VDC).	
			Gauge	Per 1000							
Distance from source to 1st device		55	12	1.98		Standard Wire Resistance in Ohms per 1000 feet.					
Wire Gauge for balance of circuit			12	1.98		18=7.77 16=4.89 14=3.07 12=1.98 10=1.24					
Enter current in amps	Distance					18-14 Awg = Solid Conductors 12-10 Awg = Stranded Conductors					
150 = 150 ma	from		Voltage			Device Manufacturer	EST			Device Manufacturer	EST
Device Device	previous	At	Drop from	Percent		Speaker Strobe				LED - Strobe Only	
Number Current	device	Device	source	Drop		Model #	Candela	Current		Model #	Candela	Current
Device 1 0.022	55	20.36	0.038	0.19%		ELSPSTWC (15)	15	0.022		Not Used	0	0.000
Device 2 0.022	25	20.35	0.054	0.26%		ELSPSTWC (15)	15	0.022		Not Used	0	0.000
Device 3 0.022	40	20.33	0.074	0.37%		ELSPSTWC (15)	15	0.022		Not Used	0	0.000
Device 4 0.022	40	20.31	0.092	0.45%		ELSPSTWC (15)	15	0.022		Not Used	0	0.000
Device 5 0.022	25	20.30	0.101	0.49%		ELSPSTWC (15)	15	0.022		Not Used	0	0.000
Device 6 0.022	40	20.29	0.111	0.54%		ELSPSTWC (15)	15	0.022		Not Used	0	0.000
Ex Device 0.022	25	20.28	0.115	0.57%		ELSPSTWC (15)	15	0.022		Not Used	0	0.000
Ex Device 0.022	85	20.28	0.123	0.60%		ELSPSTWC (15)	15	0.022		Not Used	0	0.000
Device 9 0.000	35	20.28	0.123	0.60%		Not Used	0	0.000		Not Used	0	0.000
		20.28	0.123	0.60%		Spare		Enter % required Here >>		20%	
Totals 0.176	370	End of Line Voltage		20.28							

1 CALCULATIONS
NTS



2 RISER DIAGRAM
NTS

NOTES

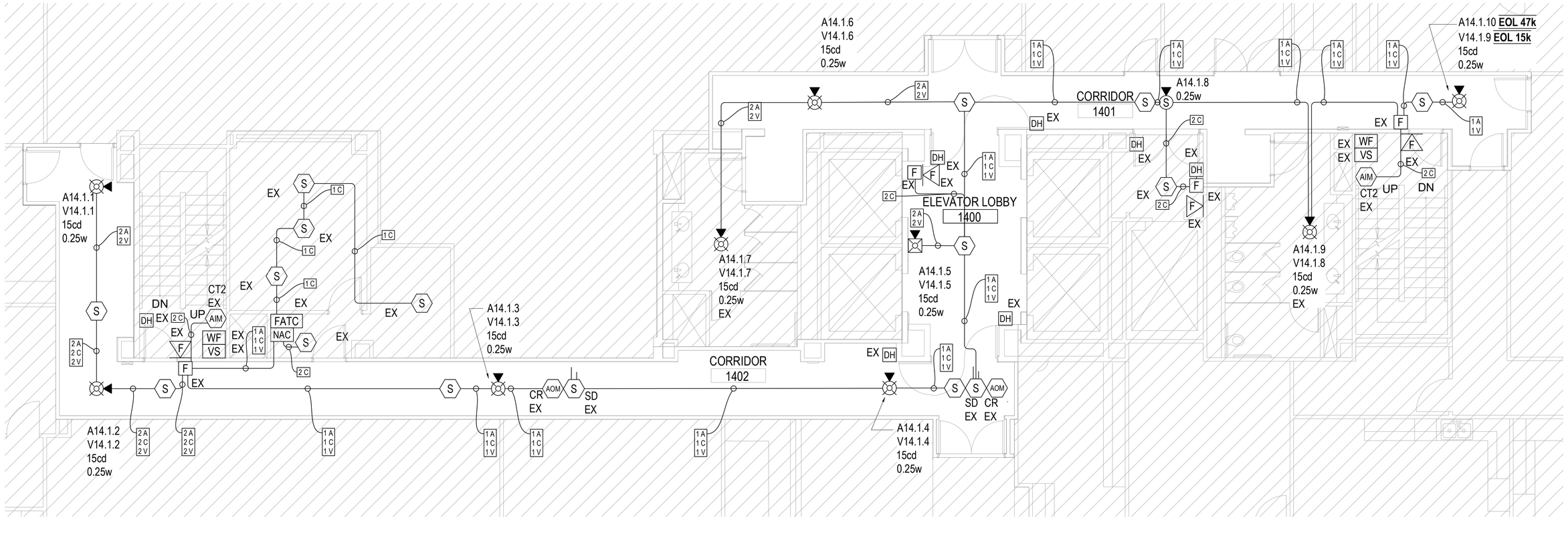
SYMBOL LIST

SYMBOL	DESCRIPTION
FATC	EST 3 MODULAR CONTROL PANEL
NAC	REMOTE BOOSTER POWER SUPPLY, 10A
F	FIRE ALARM PULL STATION
AIM CT2	DUAL INPUT MODULE
CR	CONTROL RELAY MODULE
SD	SUPERDUCT DETECTOR
S OSD	INTELLIGENT OPTICAL SMOKE DETECTOR
	SPEAKER STROBE,CEILING, WHITE
S	SPEAKER, CEILING, WHITE
DH	DOOR HOLDER
F	FIRE PHONE JACK

NOTE: #CD = Candela setting

FA CABLE LEGEND

LABEL	AWG	DESCRIPTION
V	12	STROBE CIRCUIT (NAC)
C	16	SIGNAL LINE CIRCUIT (SLC)
A	14	SPEAKER CIRCUIT (AUDIO)



1 FIRE ALARM PLAN - LEVEL 14

0 1' 5' 10' 15'
1/8" = 1'-0"