

BUILDING CLASSIFICATIONS
AND CODES

OCCUPANCY GROUP: I-2
USE: MEDICAL OFFICE BUILDING
CONSTRUCTION TYPE: TYPE-IA
STORIES: BASEMENT + 4 FLOORS
SPRINKLERED: FULLY
REQUIREMENTS: MODIFIED PER 2009 IFC
CODES: 2009 IFC 2007 NFPA 72
2009 IBC 2003 ANSI 17.1
2009 IMC ~~2009~~ NFPA 70
2014

SYSTEM TYPE AND MONITORING

SYSTEM CLASSIFICATION: (NFPA 72, CHAPTER 8), REMOTE STATION
SYSTEM TYPE: CONVENTIONAL
WIRING CLASSIFICATION: NAC - CLASS B
IDC - CLASS B, STYLE B
COMMUNICATION RISER - CLASS A
NOTIFICATION TYPE: TEMPORAL PATTERN
MONITORING: THIS SYSTEM IS AND WILL CONTINUE TO BE
MONITORED BY A REMOTE SUPERVISING
STATION, PER NFPA 72 CHAPTER 8, SECTION 3.
MONITORING COMPANY: API
(303)427-0880
ACCOUNT: 45-00-2812

DRAWING INFORMATION

FAS WORK ORDER #: 15011512
FAS CAD FILE: SPEC SUITE 440

SCOPE OF WORK

1. PROVIDE AND INSTALL FOUR (4) HORN STROBES.
2. PROVIDE AND INSTALL NINE (9) STROBES.

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SEQUENCE OF OPERATIONS MATRIX

1. FIRE ALARM SYSTEMS CANNOT BE COMBINED WITH BURGLAR ALARM SYSTEMS.
2. THE INSTALLER IS REQUIRED TO COORDINATE WITH THE MECHANICAL CONTRACTOR TO DETERMINE INSTALLATION OF SMOKE DETECTORS OR SENSORS (I.E., NOT CLOSER THAN 3 FEET FROM ANY SUPPLY/RETURN DIFFUSER AND THAT ADDITIONAL DETECTION MAY BE REQUIRED DUE TO THE RELOCATION OR SPACING ADJUSTMENT OF DETECTORS, AS A RESULT).
3. FIRE ALARM DEVICES MUST BE PLACED IN PROTECTED AREAS WITH AMBIENT TEMPERATURE RANGING FROM 32 DEGREES TO 120 DEGREES F.
4. DO NOT PLACE SMOKE DETECTORS WITHIN 3 FEET OF AIR SUPPLY REGISTERS AND DIFFUSERS.
5. FIRE ALARM SYSTEM SHALL BE MONITORED BY A CLASS I CENTRAL STATION.
6. FIRE ALARM CONTROL PANEL WILL BE PLACED IN THE LOCATION SPECIFIED WITHIN THE PLAN SUBMITTAL UNLESS APPROVED BY THE LIFE SAFETY FIELD INSPECTOR.
7. CITY OF AURORA BUILDING DIVISION DOES NOT GRANT APPROVAL FOR ANY VIOLATIONS OF ADOPTED FIRE CODE. CODE VIOLATIONS UNCOVERED DURING FIELD INSPECTIONS MUST BE CORRECTED.
8. PER THE 2009 IFC AND THE 2011 NEC THE INSTALLER MUST REQUEST A ROUGH WIRING INSPECTION ON THE FIRE ALARM SYSTEM PRIOR TO REQUESTING A FIRE ALARM FINAL INSPECTION.
9. THE CONTRACTOR SHALL CONDUCT A "PRE-TEST" OF THE PROJECT AREA PRIOR TO SCHEDULING AN ACCEPTANCE TEST WITH THE BUILDING DIVISION.
10. REMOTE ALARM INDICATORS SHALL BE PROVIDED FOR ANY AUTOMATIC FIRE ALARM DETECTOR LOCATED IN A CONCEALED LOCATION WITH A NORMALLY LOCKED DOOR.
11. AT THE TIME OF FINAL FIRE ALARM INSPECTION, THE SYSTEM MUST BE SUPERVISED/MONITORED BY A CLASS I CENTRAL MONITORING AGENCY.
12. THE INSTALLING CONTRACTOR (OR DESIGNEE) MUST PROVIDE ALL NECESSARY TESTING EQUIPMENT AND PERFORM ALL TESTING REQUIRED BY THE LIFE SAFETY FIELD INSPECTOR.
13. IN-DUCT SMOKE DETECTORS INSTALLED IN CONCEALED LOCATIONS OR, WHERE THE DETECTORS ALARM INDICATOR IS NOT READILY VISIBLE TO RESPONDING PERSONNEL SHALL BE PROVIDED WITH A REMOTE INDICATOR(S), REMOTE TEST STATION AND PERMANENT PLACARDING.
14. ALL NEW OR EXISTING FIRE ALARM SYSTEMS MUST BE CONNECTED TO ANY EXTERIOR HORN AND STROBE DEVICE. IF THE BUILDING IS FIRE SPRINKLED, A GENERAL ALARM ACTIVATION AT THE FIRE ALARM CONTROL PANEL WILL ACTIVATE THE EXTERIOR HORN AND STROBE. SILENCING THE PANEL MUST ALLOW THE VISUAL DEVICE TO CONTINUE UNTIL THE PANEL IS RESET.
15. FIRE ALARM SYSTEMS SHALL INCLUDE BOTH AUDIBLE AND VISUAL ALARMS. VISUAL ALARMS WILL BE REQUIRED IN ALL ACCESSIBLE PUBLIC AND COMMON-USE AREAS PER THE 2009 IFC AND THE 2003 ANSI A117.1 STANDARD.
16. PROVIDE A PRIMARY AND SECONDARY POWER SUPPLY FOR THE FIRE ALARM SYSTEM PER THE 2009 IFC AND THE 2007 NFPA 72.
17. THE FIRE ALARM INSTALLATION CONTRACTOR MUST COMPLETE THE NFPA 72 "RECORD OF COMPLETION" PRIOR TO SCHEDULING THE AHJ ACCEPTANCE TEST.
18. FIELD INSPECTION CONSULTATION IS AVAILABLE UPON REQUEST. CALL 303-739-7420 TO REQUEST CONSULTATION.
19. AUDIBLE ALARM SIGNALING DEVICES SHALL EXCEED THE PREVAILING SOUND LEVEL IN A ROOM OR SPACE BY 15 DBA. SOUND LEVELS FOR ALARM SIGNALS SHALL BE 120 DBA MAXIMUM. IFC SECTION 907.10.2.



City of Aurora Building Division
Project: Spec Suite 440; Fire Alarm
Address: 1411 S Potomac St., Unit 440
Occupancy Group: IBC B
Construction Type: IBC TYPE IIB-SPK
RSN: 1077514
Permit: 2016-1046839-LT

1411 SOUTH POTOMAC STREET

FIRE ALARM SYSTEM
SHOP DRAWINGS FOR:

PROJECT:

SPEC SUITE 440
1411 SOUTH POTOMAC STREET
AURORA, CO 80012

ELECTRICAL CONTRACTOR:

FIRE ALARM SERVICES, INC.
4800 W. 60TH AVENUE
ARVADA, CO 80003
PH:(303)466-8800
FAX:(303)466-8820
SHANNON SMITH

FIRE ALARM DESIGNER:

FIRE ALARM SERVICES, INC.
4800 W. 60TH AVENUE
ARVADA, CO 80003
PH:(303)466-8800
FAX:(303)466-8820



Fire Alarm Services, Inc.
4800 W. 60th Avenue
Arvada, CO 80003

(303)466-8800 (Phone)
(303)466-8820 (Fax)
contactus@fasonline.cc (E-Mail)
www.fasonline.cc

GENERAL CONTRACTOR:

PRINCIPIA CONSTRUCTION LOGISTICS, INC.
15350 EAST HINSDALE DRIVE, SUITE C
CENTENNIAL, CO 80112
PH:(720)273-7470
FAX:(720)489-8228
DANA MARTIN

ARCHITECT:

WARE MALCOMB
1600 CHAMPA STREET, SUITE 350
DENVER, CO 80202
PH:(720)488-2626

GENERAL NOTES

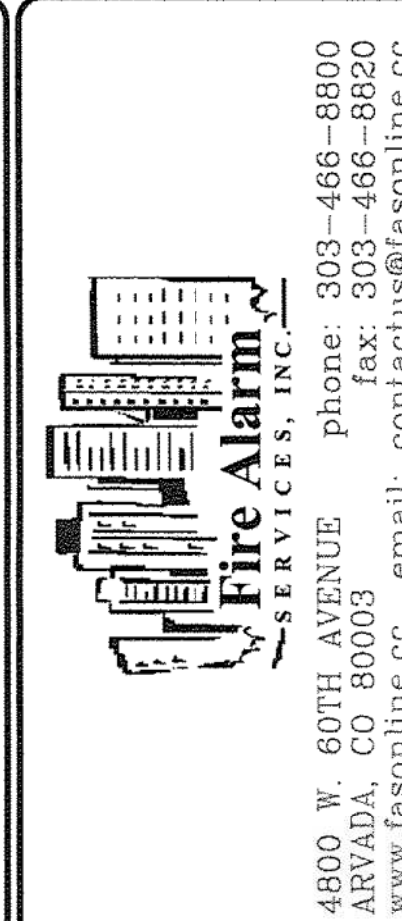
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16. PROVIDE A PRIMARY AND SECONDARY POWER SUPPLY FOR THE FIRE ALARM SYSTEM PER THE 2009 IFC, SECTION 907.5 AND THE 2007 NFPA 72.



City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: John J. Van Essen
Date: Jan 14, 2016
2009 INTERNATIONAL CODES & 2011 NEC
[2007 NFPA 72]
RSN: 1077514
Permit #: 2016-1046839-LT

Steven Sprague
NICET Fire Alarm Systems
Level III
Certification #137416
Date: 1-5-16

Signature



DRAWN BY: L. BACON	NO.	DATE	REVISIONS
DATE: 1/5/2016			
APPR. BY: SAS			
DATE: 1/5/16			

FIRE ALARM SYSTEM TENANT FINISH FOR:	PROJECT TITLE
FIRE ALARM SYSTEM TENANT FINISH FOR: SPEC SUITE 440	BUILDING NAME & ADDRESS 1411 SOUTH POTOMAC STREET 1411 S. POTOMAC ST. AURORA, CO 80012
	PROJECT NUMBER 15011512

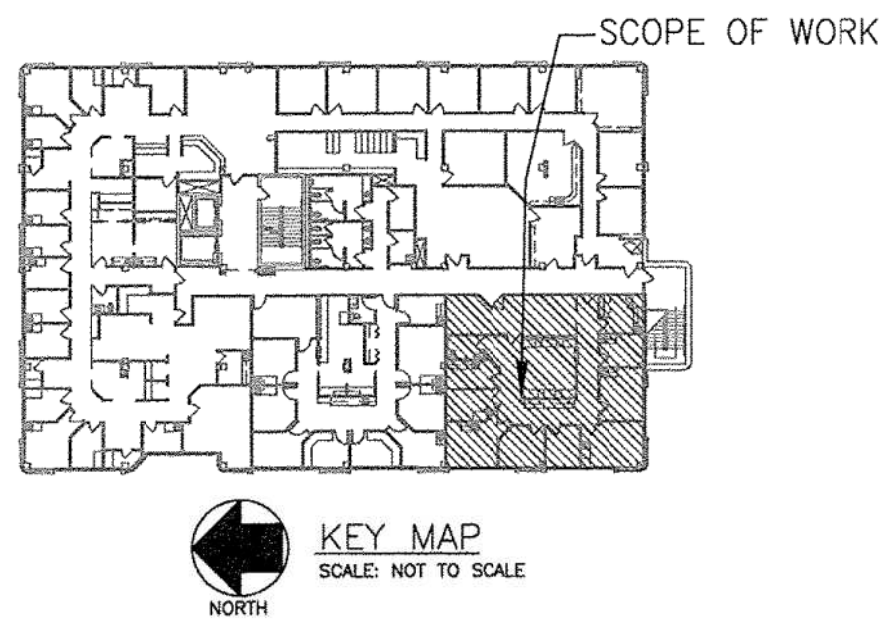
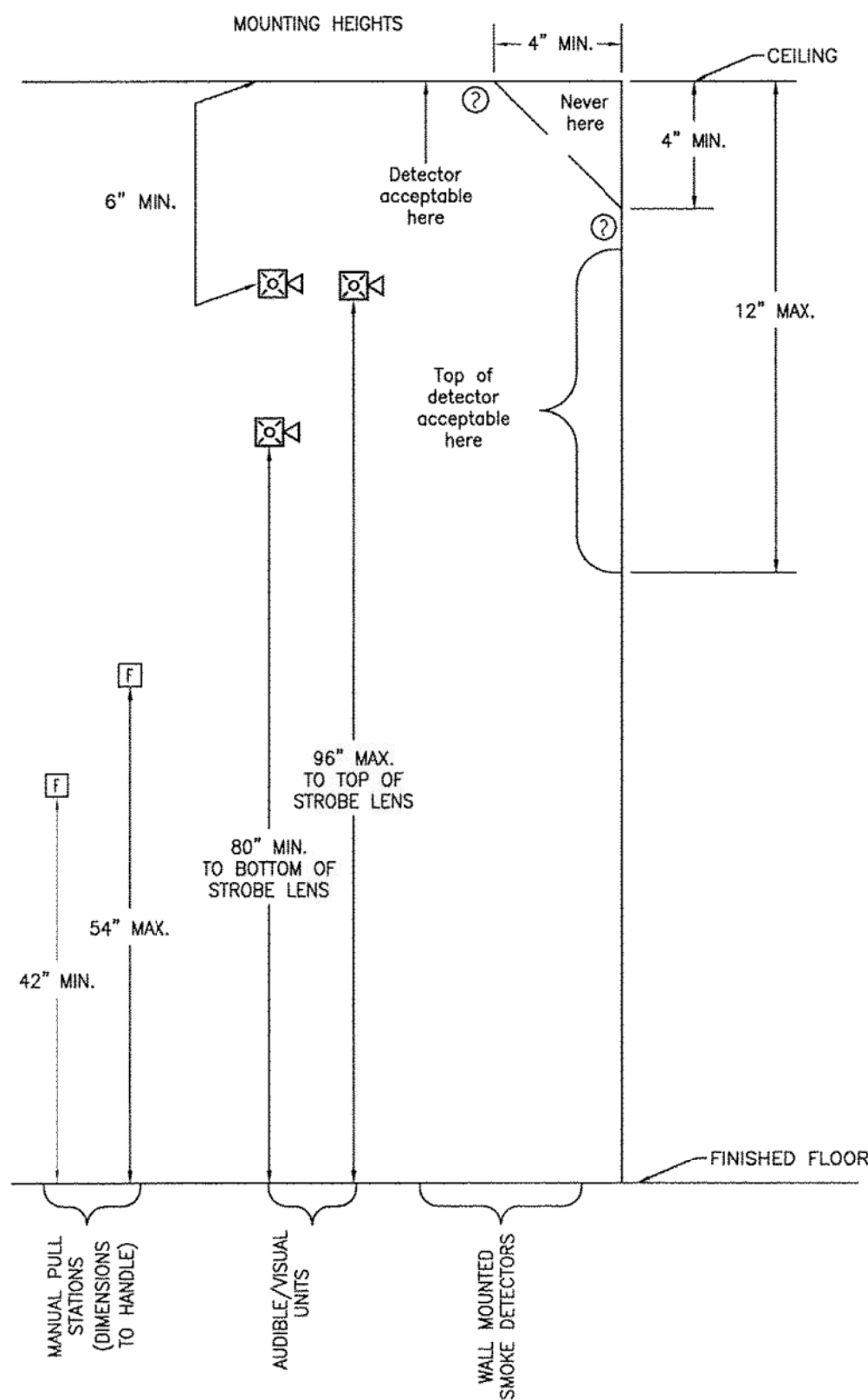
FIRE ALARM & DETECTION SYSTEM	SCALE: N/A
DRAWING TITLE: SUITE 440 COVER PAGE	

PROJECT SHEET TITLE
FA-00

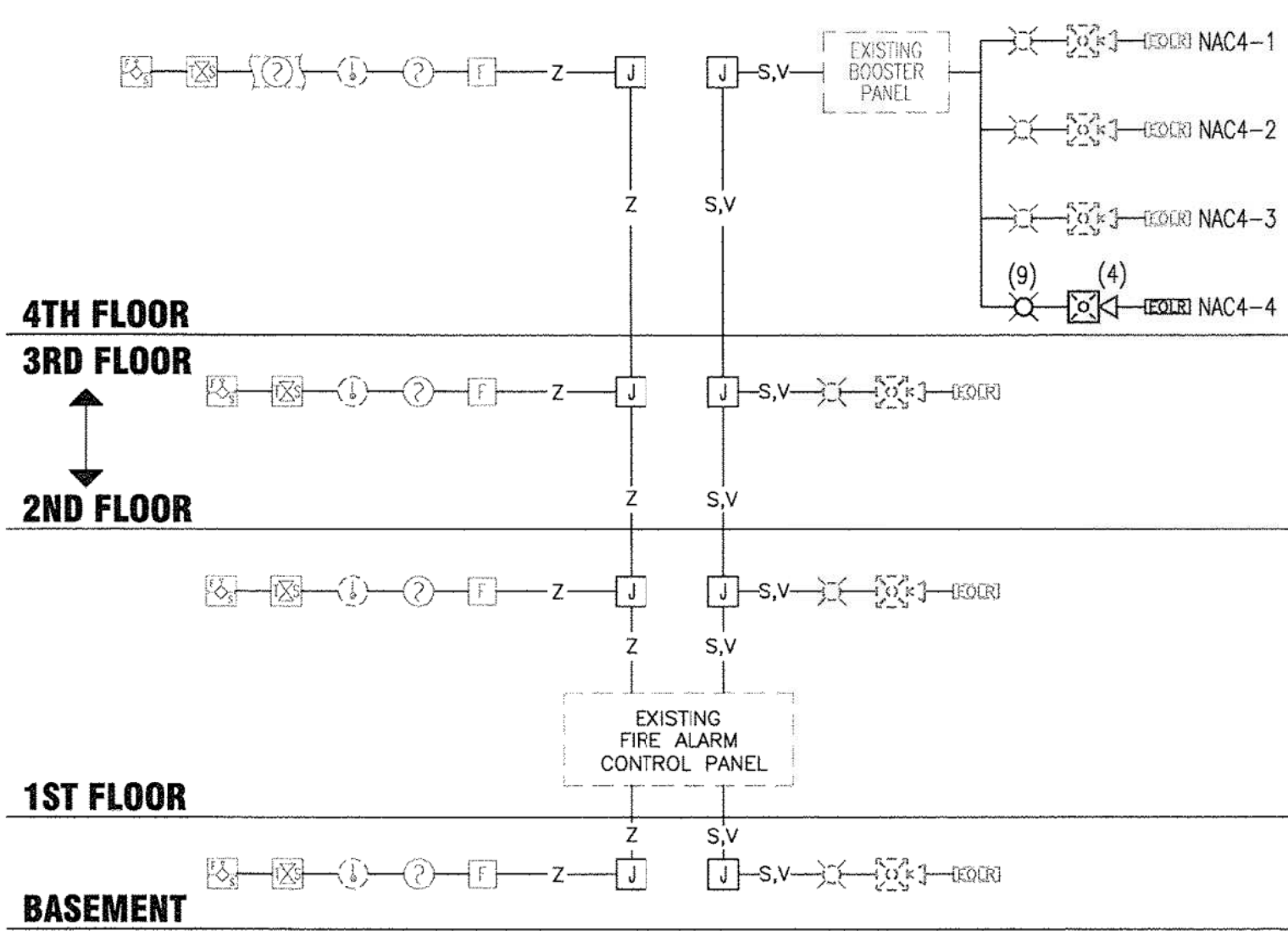


City of Aurora Building Division

Project: **Spec Suite 440; Fire Alarm**
Address: **1411 S Potomac St, Unit 440**
Occupancy Group: **IBC B**
Construction Type: **IBC TYPE IIB-SPK**
RSN: **1077514**
Permit: **2016-1046839-LT**



FIRE ALARM WIRE COLOR CODE CHART				
Code	Description	Wire Type	Color (+)	Color (-)
AC	120VAC Power Wiring	3#12 AWG Solid (w/ Green Ground)	Black (hot)	White (neu)
A	Annunciator Wiring	#18 AWG Twisted/Shielded Pair	Red	Black
D	Door Holder Wiring	2#14 AWG Solid	Red	Black
L	SLC Wiring (Signaling Line Circuit)	2#18 AWG Solid	Red	Black
P	24VDC Power Wiring	2#16 AWG Solid	Red	Black
R	Remote Light/Test Wiring	2#18 AWG Solid	Red	Black
S	Notification Appliance (Horns) Wiring	2 or 4#14 AWG Solid	Red	Black
S	Notification Appliance (Speaker) Wiring	2#16 AWG Twisted/Shielded Pair	Red	Black
T	Telephone Circuit Wiring	2#16 AWG Twisted/Shielded Pair	Red	Black
V	Notification Appliance (Strobe) Wiring	2 or 4#14 AWG Solid	Red	Black
X	Auxiliary Circuit (Relay) Wiring	2#14 AWG Solid	Red	Black
Z	IDC Wiring (Initiating Device Circuit)	2#18 AWG Solid	Red	Black
WIRE TYPE CLASS & STYLE		IDC - CLASS B - STYLE 4	NAC - CLASS B	

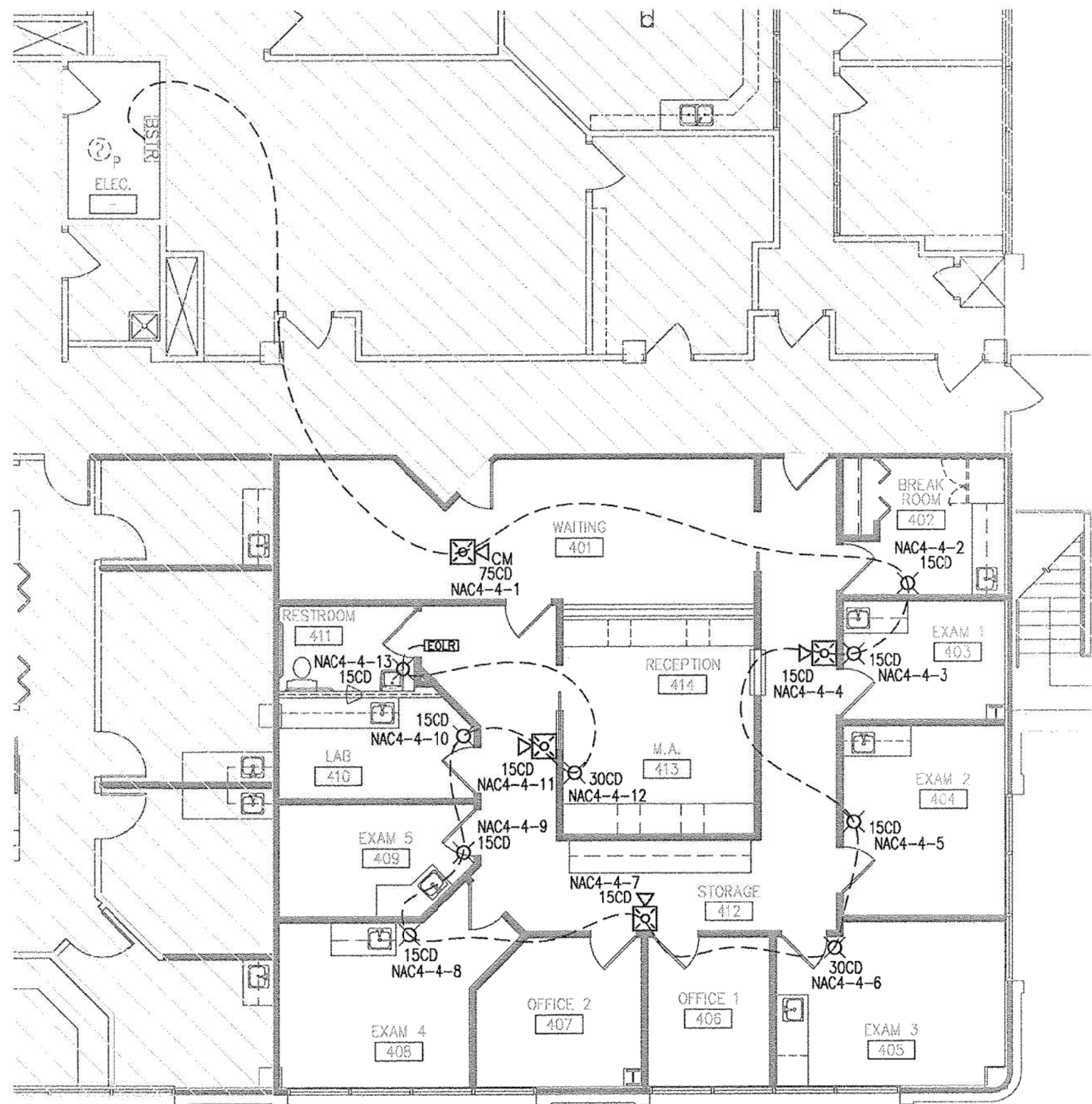


ONE-LINE RISER DIAGRAM

GENERAL NOTES:

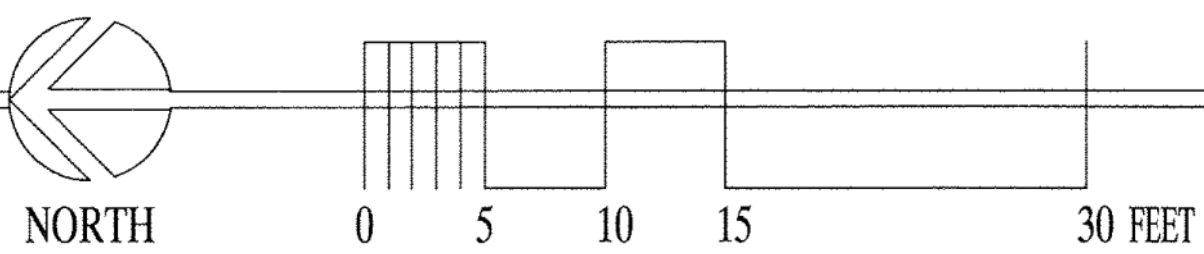
1. THE CEILING IS A TYPICAL 9' A.F.F. DROPPED CEILING WITH NO SLOPES.

FIRE ALARM SYMBOLS LEGEND		
EXISTING	DESCRIPTION	PROPOSED
	STROBE - Wall Mount or CM = Ceiling Mount	
	SMOKE DETECTOR - x = photo, ion	
	HEAT DETECTOR - x =135, 200, ROR	
	HORN STROBE - Wall Mount or CM = Ceiling Mount	
	END OF LINE RESISTOR	
	PULL STATION	
	TAMPER SWITCH	
	FLOW SWITCH	
	DUCT DETECTOR - x = photo, ion	
	BOOSTER PANEL	
NOTIFICATION APPLIANCE CIRCUIT NUMBER NOTIFICATION APPLIANCE PANEL NUMBER NAC1-2-3 POWER EXPANDER NUMBERING		
= J-BOX		



SUITE 440 FIRE ALARM PLAN

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



City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: **John J. Van Essen**
Date: **Jan 14, 2016**
2009 INTERNATIONAL CODES & 2011 NEC
[2007 NFPA 72]
RSN: **1077514**
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Steven Sprague
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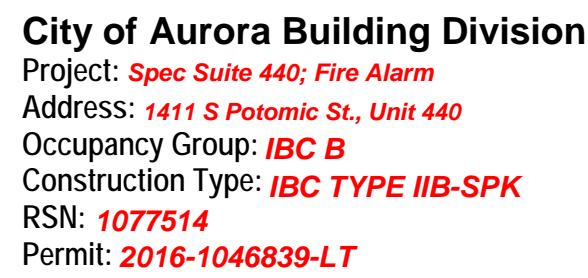


REVISIONS		NO.	DATE
DRAWN BY:	L. BACON		
DATE:	1/5/2016		
APPR. BY:			
DATE:	1/5/16		

PROJECT TITLE	FIRE ALARM SYSTEM TENANT FINISH FOR: SPEC SUITE 440	
	BUILDING NAME & ADDRESS	1411 SOUTH POTOMAC STREET 1411 S. POTOMAC ST. AURORA, CO 80012
PROJECT NUMBER	15011512	

DRAWING TITLE:	SUITE 440 FIRE ALARM PLAN	
	SCALE: AS SHOWN	

PROJECT SHEET TITLE	FA-01
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FOR: 1411 SOUTH POTOMAC ST.
AURORA, CO 80012

HOURS OF SUPERVISION:	24	HOURS
MINUTES OF ALARM:	5	MINUTES

ITEM	QTY	PART NUMBER	DESCRIPTION	Device Supervisory Current	Device Alarm Current	Total Supervisory Current	Total Alarm Current
1	1	EXISTING	Notification Booster Panel	0.065000	0.145000	0.065000	0.145000
TOTAL:						0.065000	0.145000

		PART		Device	Device	Total	Total
ITEM	QTY	NUMBER	DESCRIPTION	Supervisory	Alarm	Supervisory	Alarm
				Current	Current	Current	Current
1	12	EXISTING	15cd Strobe	0.000000	0.066000	0.000000	0.792000
2	2	EXISTING	30cd Strobe	0.000000	0.094000	0.000000	0.188000
3	5	EXISTING	15cd Horn/Strobe	0.000000	0.079000	0.000000	0.395000
4	2	EXISTING	30cd Horn/Strobe	0.000000	0.107000	0.000000	0.214000
5	3	EXISTING	75cd Horn/Strobe	0.000000	0.176000	0.000000	0.528000
6	2	EXISTING	110cd Horn/Strobe	0.000000	0.212000	0.000000	0.424000
7	2	EXISTING	15cd Ceiling Mt. Strobe	0.000000	0.066000	0.000000	0.132000
8	1	EXISTING	30cd Ceiling Mt. Strobe	0.000000	0.094000	0.000000	0.094000
9	2	EXISTING	15cd Ceiling Mt. Horn/Strobe	0.000000	0.079000	0.000000	0.158000
10	2	EXISTING	30cd Ceiling Mt. Horn/Strobe	0.000000	0.107000	0.000000	0.214000
11	1	EXISTING	75cd Ceiling Mt. Horn/Strobe	0.000000	0.176000	0.000000	0.176000
12	7	SR	15cd Strobe	0.000000	0.066000	0.000000	0.462000
13	2	SR	30cd Strobe	0.000000	0.094000	0.000000	0.188000
14	3	P2R	15cd Horn/Strobe	0.000000	0.079000	0.000000	0.237000
15	1	PC2W	75cd Ceiling Mt. Horn/Strobe	0.000000	0.176000	0.000000	0.176000
TOTAL:						0.000000	4.378000

SUPERVISORY:		
PANEL:	0.065000	AMPS
PERIPHERAL	0.000000	AMPS
SUB-TOTAL:	0.065000	AMPS
X HOURS OF SUPERVISION	24.000000	HOURS
SUB-TOTAL:	1.560000	AMP HOURS

ALARM:		
PANEL:	0.145000	AMPS
PERIPHERAL:	4.378000	AMPS
SUB-TOTAL:	4.523000	AMPS
X MINUTES OF ALARM:	0.08333	HOURS
SUB-TOTAL:	0.376917	AMP HOURS

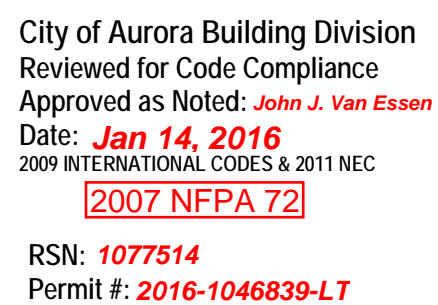
TOTALS:		
TOTAL SUPERVISORY:	1.560000	AMP HOURS
TOTAL ALARM:	0.376917	AMP HOURS
TOTAL:	1.936917	AMP HOURS
TOTAL PLUS SAFETY FACTOR(20%)	2.32430	AMP HOURS
Batteries Supplied - 1 Set of:	7.00000	AMP HOURS

INCREMENTAL VOLTAGE DROP CALCULATIONS FOR AUDIBLE/ VISUAL CIRCUITS
MINIMUM UL RATED VOLTAGE: 16 VOLTS
Current shown in calculations is RMS current at 16 volts.

Resistance	12 Gauge	2.01
	14 Gauge	3.19
	16 Gauge	5.08

Circuit Number: NAC4-4							
Location: 4TH FLOOR BOOSTER PANEL		INPUT VOLTAGE = 20.4 VOLTS					
Notification Circuit	Current (in amps)	Wire Distance (in feet)	Total Distance (in feet)	Wire Size (AWG)	Resistance (Ohms)	Voltage Drop	From Baseline Voltage
CM Horn/Strobe 75CD	0.176	45	45	14	0.2871	0.3055	20.0945
Strobe 15CD	0.066	43	88	14	0.2743	0.2436	19.8509
Strobe 15CD	0.066	18	106	14	0.1148	0.0944	19.7565
Horn/Strobe 15CD	0.079	10	116	14	0.0638	0.0482	19.7083
Strobe 15CD	0.066	21	137	14	0.1340	0.0907	19.6176
Strobe 30CD	0.094	18	155	14	0.1148	0.0702	19.5474
Horn/Strobe 15CD	0.079	22	177	14	0.104	0.0726	19.4748
Strobe 15CD	0.066	26	203	14	0.1659	0.0727	19.4022
Strobe 15CD	0.066	19	222	14	0.1212	0.0451	19.3571
Strobe 15CD	0.066	17	239	14	0.1085	0.0332	19.3239
Horn/Strobe 15CD	0.079	16	255	14	0.1021	0.0245	19.2994
Strobe 30CD	0.094	12	267	14	0.0766	0.0123	19.2871
Strobe 15CD	0.066	26	293	14	0.1659	0.0111	19.2760
End of Line Resistor	0.001	0	293	14	0.0000	0.0000	19.2760
Totals:	1.064	293			1.8693	1.1240	19.2760
Total Devices:	13						

FACP Annunciation						Notification						Fire Safety Ctrl.				Monitoring																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	Actuate Common Alarm Signal Indicator					Actuate Common Supervisory Signal Indicator					Actuate Common Trouble Signal Indicator					Display Change of Status					Actuate Basement Evacuation Signals (Speakers/Strobes)					Actuate 1st Floor Evacuation Signals (Horn/Strobes)					Actuate 2nd Floor Evacuation Signals (Horn/Strobes)					Actuate 3rd Floor Evacuation Signals (Speakers/Strobes)					Actuate Fire Evacuation Signals (Speakers/Strobes)					Actuate Exterior Horn/Strobe					Actuate Audible Signal (Horn)					Release Magnetically Held Smoke Doors					Recall Elevator(s) to 1st Floor - Primary Recall					Recall Elevator(s) to 2nd Floor - Alternate Recall					Shut Down Air Handling Units					Transmit Fire Alarm Signal to Supervising Station					Transmit Trouble Signal to Supervising Station					Transmit Supervisory Signal to Supervising Station					Transmit Waterflow Signal to Supervising Station																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	aa	ab	ac	ad	ae	af	ag	ah	ai	aj	ak	al	am	an	ao	ap	aq	ar	as	at	au	av	aw	ax	ay	az	ba	bb	bc	bd	be	bf	bg	bh	bi	bj	bk	bl	bm	bn	bo	bp	bq	br	bs	bt	bu	bv	bw	bx	by	bz	ca	cb	cc	cd	ce	cf	cg	ch	ci	cj	ck	cl	cm	cn	co	cp	cq	cr	cs	ct	cu	cv	cw	cx	cy	cz	da	db	dc	dd	de	df	dg	dh	di	dj	dk	dl	dm	dn	do	dp	dq	dr	ds	dt	du	dv	dw	dx	dy	dz	ea	eb	ec	ed	ee	ef	eg	eh	ei	ej	ek	el	em	en	eo	ep	eq	er	es	et	eu	ev	ew	ex	ey	ez	fa	fb	fc	fd	fe	ff	fg	fh	fi	fj	fk	fl	fm	fn	fo	fp	fq	fr	fs	ft	fu	fv	fw	fx	fy	fz	ga	gb	gc	gd	ge	gf	gg	gh	gi	gj	gk	gl	gm	gn	go	gp	gq	gr	gs	gt	gu	gv	gw	gx	gy	gz	ha	hb	hc	hd	he	hf	hg	hh	hi	hj	hk	hl	hm	hn	ho	hp	hq	hr	hs	ht	hu	hv	hw	hx	hy	hz	ia	ib	ic	id	ie	if	ig	ih	ii	ij	ik	il	im	in	io	ip	iq	ir	is	it	iu	iv	iw	ix	iy	iz	ja	jb	jc	jd	je	jf	jj	jk	jl	jm	jn	jo	jp	jq	jr	js	jt	ju	jv	jw	jx	ka	kb	kc	kd	ke	kf	kg	kh	ki	kj	kk	kl	km	kn	ko	kp	kq	kr	ks	kt	ku	kv	kw	kx	ky	kz	la	lb	lc	ld	le	lf	lg	lh	li	lj	lk	ll	lm	ln	lo	lp	lq	lr	ls	lt	lu	lv	lw	lx	ly	lz	ma	mb	mc	md	me	mf	mg	mh	mi	mj	mk	ml	mn	mo	mp	mq	mr	ms	mt	mu	mv	mw	mx	my	mz	na	nb	nc	nd	ne	nf	ng	nh	ni	nj	nk	nl	nm	nn	no	np	nq	nr	ns	nt	nu	nv	nw	nx	ny	nz	oa	ob	oc	od	oe	of	og	oh	oi	oj	ok	ol	om	on	oo	op	oq	or	os	ot	ou	ov	ow	ox	oy	oz	pa	pb	pc	pd	pe	pf	pg	ph	pi	pj	pk	pl	pm	pn	po	pp	pq	pr	ps	pt	pu	pv	pw	px	py	pz	qa	qb	qc	qd	qe	qf	qg	qh	qi	qj	qk	ql	qm	qn	qo	qp	qq	qr	qs	qt	qu	qv	qw	qx	qy	qz	ra	rb	rc	rd	re	rf	rg	rh	ri	rj	rk	rl	rm	rn	ro	rp	rq	rr	rs	rt	ru	rv	rw	rx	ry	rz	sa	sb	sc	sd	se	sf	sg	sh	si	sj	sk	sl	sm	sn	so	sp	sq	sr	ss	st	su	sv	sw	sx	sy	sz	ta	tb	tc	td	te	tf	tg	th	ti	tj

[illegible]

Steven Sprague
NICET Fire Alarm Systems
Level III
Certification #137416
Date: 1-5-16

Date: 5-16



Fire Alarm
SERVICES, INC.

4800 W. 60TH AVENUE
ARVADA, CO 80003

phone: 303-466-8800
fax: 303-466-8820
email: contactus@fasonline.cc
www.fasonline.cc

DRAWN BY:	NO.	DATE	REVISIONS
L. BACON			
DATE:			
1/5/2016			
APPR. BY:			
<i>MB</i>			
DATE:			
1/5/16			

PROJECT TITLE	FIRE ALARM SYSTEM "TENANT" FINISH FOR: SPEC SUITE 440
BUILDING NAME & ADDRESS	1411 SOUTH POTOMAC STREET 1411 S. POTOMAC ST. AURORA, CO 80012
PROJECT NUMBER	15011512

FIRE ALARM & DETECTION SYSTEM
DRAWING TITLE:
SUITE 440
CALCS/MATRIX
SCALE: N/A

PROJECT
SHEET
TITLE
FA-02

Fire Alarm System Acceptance Inspection

2009 IFC and 2007 NFPA 72

This worksheet is for jurisdictions that permit the use of 2007 NFPA 72 in lieu of IFC's referenced 2002 NFPA 72.

Date of Inspection: _____ Permit Number: _____

Business/Building Name: _____ Address of Project: _____

Contractor: _____ Contractor's Phone: _____

Reference numbers following worksheet statements represent an NFPA code section unless otherwise specified.

Pass	Fail	NA	General
------	------	----	---------

- | | | | |
|-----------|-------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. _____ | _____ | _____ | Obtained a copy of the fire alarm installation certification and a Record of Completion from installer, 4.5.2.1. |
| 2. _____ | _____ | _____ | Approved plans are on site. |
| 3. _____ | _____ | _____ | Fire alarm control unit (FACU) and remote annunciator (RA) are installed consistent with approved plans, 4.4.6.1.1. and 7.10. |
| 4. _____ | _____ | _____ | A zone and legend map is provided at the RA or an approved location. |
| 5. _____ | _____ | _____ | Fire alarm zones are properly identified on the FACU and RA panels. |
| 6. _____ | _____ | _____ | The fire alarm system power supply is a dedicated 120 AC branch circuit, which is labeled, 4.4.1.4.2.2. |
| 7. _____ | _____ | _____ | Type and gauge of wire or cable(s) for each circuit are consistent with the plans. |
| 8. _____ | _____ | _____ | Device location and installation are consistent with the plans. |
| 9. _____ | _____ | _____ | Pull stations are installed at the proper height and location, 42 in. to 48 in. and within the 200 ft. maximum travel distance, 5.13 and IFC 907.5.2.1 and 907.5.2.2. |
| 10. _____ | _____ | _____ | A Contractor Sound Pressure Level (dBA) Pretest Room Log is provided and verified with the use of a sound meter during a sound pressure test. |

Operational

- | | | | |
|-----------|-------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11. _____ | _____ | _____ | Fire alarm audible notification devices sound throughout the occupancy providing a sound pressure level at least a minimum of 15 dBA above the average ambient noise level or 5 dBA above the maximum noise level. For bedrooms with closed door provide at least 75 dBA at the pillow, 7.4.4.1, IFC 907.6.2.1.1. |
| 12. _____ | _____ | _____ | Fire alarm audible devices are a three-pulse temporal pattern unless they were permitted to match existing audible devices, 6.8.6.5.1. |
| 13. _____ | _____ | _____ | Fire alarm visual notification device intensity (cd) ratings and settings, mounting height (80 in. to 96 in.), and location, are consistent with the plans, 7.5.4.1. |
| 14. _____ | _____ | _____ | Emergency voice/ alarm communications systems is tested and documentation is provided documenting the verbal statement(s) are distinguishable and understandable, Table 10.4.2.2.15(b). |
| 15. _____ | _____ | _____ | In sprinklered buildings, the fire alarm notification devices will activate by operation of the sprinkler flow alarm. |
| 16. _____ | _____ | _____ | HVAC duct detectors are supervised by the fire alarm system, detectors are all tested to verify if they can sample the air stream, fans shut down upon activation and visual and audible status alarm functions, Table 10.4.2.2.14(g). |
| 17. _____ | _____ | _____ | A central, remote or proprietary monitoring service received various signals during system tests. |
| 18. _____ | _____ | _____ | Verify that the correct and distinctive signals are received (alarm, trouble, and supervisory alarms), 4.4.3.3, 10.4.1.1 |
| 19. _____ | _____ | _____ | Two monitoring circuits are provided, both circuits send correct signals to monitoring company within 90 seconds, Table 10.4.2.2.16. |
| 20. _____ | _____ | _____ | Verify proper operation of magnetic door-releasing hardware and/or ventilation shutdown. |
| 21. _____ | _____ | _____ | Sprinkler tamper switch activation transmits a trouble signal at the annunciator panel. |
| 22. _____ | _____ | _____ | Fire department communications system, if provided, is operational. |
| 23. _____ | _____ | _____ | For air sampling and flame detectors, test the device in accordance with the manufacturer's instructions. |
| 24. _____ | _____ | _____ | Restoreable heat and smoke detectors, and pull stations are tested. |
| 25. _____ | _____ | _____ | Trouble condition is created for each circuit and the FACU responds appropriately. |
| 26. _____ | _____ | _____ | Remote annunciator displays the correct zone and device information. |

27. ____ | ____ | ____ Battery load test: the system is switched to battery operation 24 hours before the test and in the presence of the inspector the notification devices are activated and operate for 5 minutes or 15 minutes for emergency voice alarms.
28. ____ | ____ | ____ Check battery charger, measure load voltage, and open circuit voltage.
29. ____ | ____ | ____ Test ground-fault monitoring circuit, if provided.
30. ____ | ____ | ____ Under primary and secondary power, perform these tests:
- ____ | ____ | ____ A. power light on and in normal condition, trouble signal when on secondary power.
- ____ | ____ | ____ B. supervisory signals: fire pump power loss or phase reversal, water level/temp, pressure switches, control valves, etc.
- ____ | ____ | ____ C. silence switch functions.
- ____ | ____ | ____ D. a 2nd alarm initiating zone overrides silence switch.
- ____ | ____ | ____ E. trouble signals and FACU panel lights operate for each circuit tested; disconnect .wires from devices and primary power supply to simulate trouble conditions.
- ____ | ____ | ____ F. on secondary power, measure standby and alarm current demand.
- ____ | ____ | ____ G. trouble and alarm reset switches operate.
- ____ | ____ | ____ H. emergency voice alarms: the message is clear and distinct.
- ____ | ____ | ____ I. initiating devices tested, audible sound pressure levels, and visuals operate.
- ____ | ____ | ____ J. panel lamp test switch operates: if provided.
- ____ | ____ | ____ K. field zones and device address signals corresponded with panel zones and addresses.
- ____ | ____ | ____ L. elevator(s) recall to designated floor and alternate floor in accordance with 6.16.3.
31. ____ | ____ | ____ Other systems activate fire alarm: kitchen hood suppression system, clean agent, etc.
32. ____ | ____ | ____ As-builts are required when system installation is not consistent with the plans.
33. ____ | ____ | ____ Circuit loop resistance is within specifications and a test may be required if the system wiring has changed from the plans.
34. ____ | ____ | ____ Heat and spot smoke detectors are not within 4 in. of the sidewall, or if on the sidewall, the detector is 4 in. to 12 in. from the ceiling, 5.6.3.1, 5.7.3.2.1.
35. ____ | ____ | ____ Visual devices in a room or adjacent space with more than 2 devices within the field of view the flash are synchronized, 7.5.4.1.2(3). Devices in a corridor with more than 2 devices within the field of view and a maximum spacing of 100 ft., are synchronized, 7.5.4.2.5 and 7.5.4.2.7.
36. ____ | ____ | ____ Visual devices are wall mounted 80 in. to 96 in. above the floor level unless otherwise permitted by the approved plans and the fire code official, 7.5.4.1.
37. ____ | ____ | ____ Supplemental (extra) visual devices are permitted to be mounted less than 80 in. above the floor, 7.7.2.
38. ____ | ____ | ____ Ceiling-mounted devices are listed for use and spaced in accordance with Table 7.5.4.1.1(b) and the approved plans.

*Note: additional testing criteria is found in NFPA 72: Chapter 10.

Additional Comments:

Inspection Date: _____ Approved or Disapproved FD Inspector: _____
Inspection Date: _____ Approved or Disapproved FD Inspector: _____

Fire Alarm Installation Certification

Permit #: _____

Date: _____

	Property Protected	System Installer	System Supplier
Business Name:	_____	_____	_____
Address:	_____	_____	_____
	_____	_____	_____
Representative:	_____	_____	_____
Telephone:	_____	_____	_____

Location of Plans: _____

Location of Owner's Manual: _____

1. Certification of System Installation: Complete this section after system is installed, but prior to conducting operational acceptance tests. Check wiring for opens, ground faults, and improper branching.

This system installation was inspected and found to comply with the installation requirements of:

_____ NFPA 72
_____ Article 760 of NEC
_____ Manufacturer's Instructions
_____ Other (specify; FM, UL, etc.) _____

Print Name: _____

Signed: _____ Date: _____

Organization: _____

2. Certification of System Operation: All operational features and functions of this system were tested and found to be operating properly in accordance with the requirements of:

_____ NFPA 72
_____ Design Specifications
_____ Manufacturer's Instructions
_____ Other (specify) _____

Print Name: _____

Signed: _____ Date: _____

Organization: _____

RSN: 1077514

Permit #: 2016-1046839-LT



Fire Alarm Services, Inc.

4800 W. 60th Avenue
Arvada, CO 80003

Phone (303) 466-8800
Fax (303) 466-8820

Fire Alarm System Addition at:

Tenant: Spec Suite 440
1411 S. Potomac St.
Aurora, CO 80012

Scope of Work:

1. Provide and install four (4) horn strobes.
2. Provide and install nine (9) strobes.

Steven Sprague
NICET Fire Alarm Systems
Level III
Certification #137416

Date: 1-5-16



Indoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications

SpectrAlert® Advance audible visible notification products are rich with features guaranteed to cut installation times and maximize profits.



SPECTRAlert
ADVANCE
from System Sensor

Features

- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Field-selectable candela settings on wall units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and three volume selections
- Universal mounting plate for wall units
- Mounting plate shorting spring checks wiring continuity before device installation
- Electrically Compatible with legacy SpectrAlert devices
- Compatible with MDL sync module
- Listed for ceiling or wall mounting

The SpectrAlert Advance series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry. With white and red plastic housings, wall and ceiling mounting options, and plain and FIRE-printed devices, SpectrAlert Advance can meet virtually any application requirement.

Like the entire SpectrAlert Advance product line, wall-mount horns, strobes, and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation and protect devices from construction damage, SpectrAlert Advance utilizes a universal mounting plate with an onboard shorting spring, so installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to suit a wide range of application requirements using field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with three volume selections.

Agency Listings



S4011 (chimes, horn strobes, horns)
S5512 (strobes)



3023572



MEA452-05-E



7125-1653-186 (indoor strobes)
7125-1653-188 (horn strobes,
chime strobes)
7135-1653-189 (horns, chimes)

SpectrAlert Advance Specifications

Architect/Engineer Specifications

General

SpectrAlert Advance horns, strobes, and horn strobes shall mount to a standard 4 x 4 x 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 x 4 x 17/8-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16 and 33 volts. Indoor SpectrAlert Advance products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185.

Strobe

The strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Horn Strobe Combination

The horn strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have three audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. On four-wire products, the strobe shall be powered independently of the sounder. The horn on horn strobe models shall operate on a coded or non-coded power supply.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a 411/16 x 411/16 x 21/8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications

Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 DC/FWR or regulated 24 DC/FWR ¹
Operating Voltage Range²	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Wall-Mount Dimensions (including lens)	5.6" L x 4.7" W x 2.5" D (142 mm L x 119 mm W x 64 mm D)
Horn Dimensions	5.6" L x 4.7" W x 1.3" D (142 mm L x 119 mm W x 33 mm D)
Wall-Mount Back Box Skirt Dimensions (BBS-2, BBSW-2)	5.9" L x 5.0" W x 2.2" D (151 mm L x 128 mm W x 56 mm D)
Wall-Mount Trim Ring Dimensions (sold as a 5 pack) (TR-HS, TRW-HS)	5.7" L x 4.8" W x 0.35" D (145 mm L x 122 mm W x 9 mm D)

Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 15/75 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)						UL Max. Horn Current Draw (mA RMS)					
	Candela	8-17.5 Volts		16-33 Volts		Sound Pattern	dB	8-17.5 Volts		16-33 Volts	
		DC	FWR	DC	FWR			DC	FWR	DC	FWR
Standard Candela Range	15	123	128	66	71	Temporal	High	57	55	69	75
	15/75	142	148	77	81	Temporal	Medium	44	49	58	69
	30	NA	NA	94	96	Temporal	Low	38	44	44	48
	75	NA	NA	158	153	Non-temporal	High	57	56	69	75
	95	NA	NA	181	176	Non-temporal	Medium	42	50	60	69
	110	NA	NA	202	195	Non-temporal	Low	41	44	50	50
	115	NA	NA	210	205	Coded	High	57	55	69	75
High Candela Range	135	NA	NA	228	207	Coded	Medium	44	51	56	69
	150	NA	NA	246	220	Coded	Low	40	46	52	50
	177	NA	NA	281	251						
	185	NA	NA	286	258						

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, Standard Candela Range (15-115 cd)

DC Input	8-17.5 Volts		16-33 Volts		30	75	95	110	115
	15	15/75	15	15/75					
Temporal High	137	147	79	90	107	176	194	212	218
Temporal Medium	132	144	69	80	97	157	182	201	210
Temporal Low	132	143	66	77	93	154	179	198	207
Non-Temporal High	141	152	91	100	116	176	201	221	229
Non-Temporal Medium	133	145	75	85	102	163	187	207	216
Non-Temporal Low	131	144	68	79	96	156	182	201	210
FWR Input									
Temporal High	136	155	88	97	112	168	190	210	218
Temporal Medium	129	152	78	88	103	160	184	202	206
Temporal Low	129	151	76	86	101	160	184	194	201
Non-Temporal High	142	161	103	112	126	181	203	221	229
Non-Temporal Medium	134	155	85	95	110	166	189	208	216
Non-Temporal Low	132	154	80	90	105	161	184	202	211

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, High Candela Range (135-185 cd)

DC Input	16-33 Volts				FWR Input	16-33 Volts			
	135	150	177	185		135	150	177	185
Temporal High	245	259	290	297	Temporal High	215	231	258	265
Temporal Medium	235	253	288	297	Temporal Medium	209	224	250	258
Temporal Low	232	251	282	292	Temporal Low	207	221	248	256
Non-Temporal High	255	270	303	309	Non-Temporal High	233	248	275	281
Non-Temporal Medium	242	259	293	299	Non-Temporal Medium	219	232	262	267
Non-Temporal Low	238	254	291	295	Non-Temporal Low	214	229	256	262

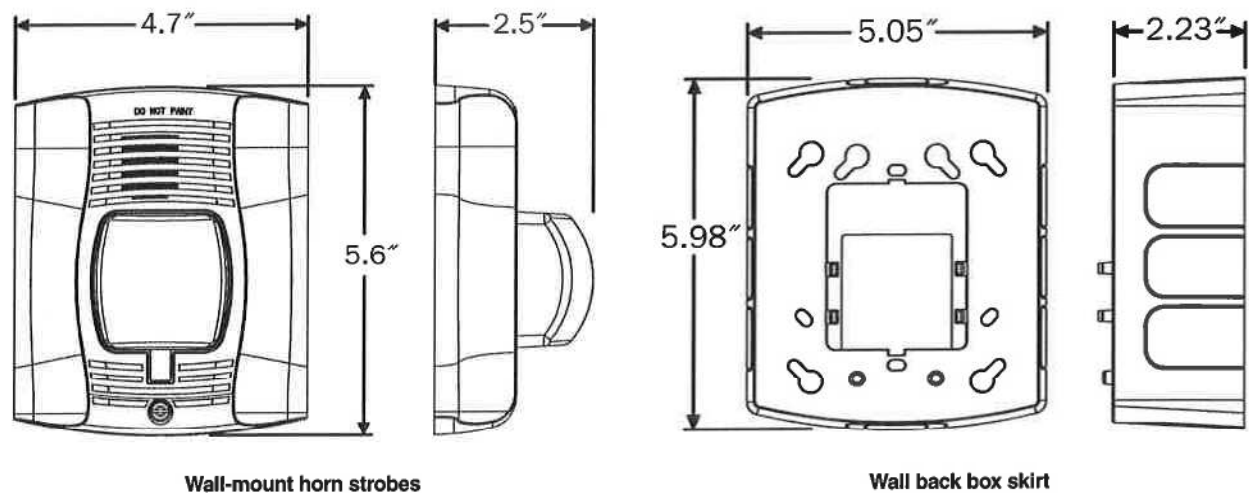
Horn Tones and Sound Output Data

Horn and Horn Strobe Output (dBA)

Switch Position	Sound Pattern	dB	8-17.5 Volts		16-33 Volts		24-Volt Nominal			
			DC	FWR	DC	FWR	Reverberant		Anechoic	
1	Temporal	High	78	78	84	84	88	88	99	98
2	Temporal	Medium	74	74	80	80	86	86	96	96
3	Temporal	Low	71	73	76	76	83	80	94	89
4	Non-Temporal	High	82	82	88	88	93	92	100	100
5	Non-Temporal	Medium	78	78	85	85	90	90	98	98
6	Non-Temporal	Low	75	75	81	81	88	84	96	92
7†	Coded	High	82	82	88	88	93	92	101	101
8†	Coded	Medium	78	78	85	85	90	90	97	98
9†	Coded	Low	75	75	81	81	88	85	96	92

†Settings 7, 8, and 9 are not available on 2-wire horn strobes.

SpectrAlert Advance Dimensions



SpectrAlert Advance Ordering Information

Model	Description
Wall Horn Strobes	
P2R*†	2-Wire Horn Strobe, Standard cd‡, Red
P2RH*	2-Wire Horn Strobe, High cd, Red
P2W*	2-Wire Horn Strobe, Standard cd, White
P2WH*	2-Wire Horn Strobe, High cd, White
P4R*	4-Wire Horn Strobe, Standard cd, Red
P4RH	4-Wire Horn Strobe, High cd, Red
P4W	4-Wire Horn Strobe, Standard cd, White
Wall Strobes	
SR*†	Strobe, Standard cd, Red
SRH*†	Strobe, High cd, Red
SW*	Strobe, Standard cd, White
SWH*	Strobe, High cd, White

Model	Description
Horns	
HR	Horn, Red
HW	Horn, White
Accessories	
BBS-2	Back Box Skirt, Wall, Red
BBSW-2	Back Box Skirt, Wall, White
TR-HS	Trim Ring, Wall, Red
TRW-HS	Trim Ring, Wall White

Notes:

- * Add "-P" to model number for plain housing (no "FIRE" marking on cover), e.g., P2R-P.
- † Add "-SP" to model number for "FUEGO" marking on cover, e.g., P2R-SP.
- ‡ "Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings. "High cd" refers to strobes that include 135, 150, 177, and 185 candela settings.



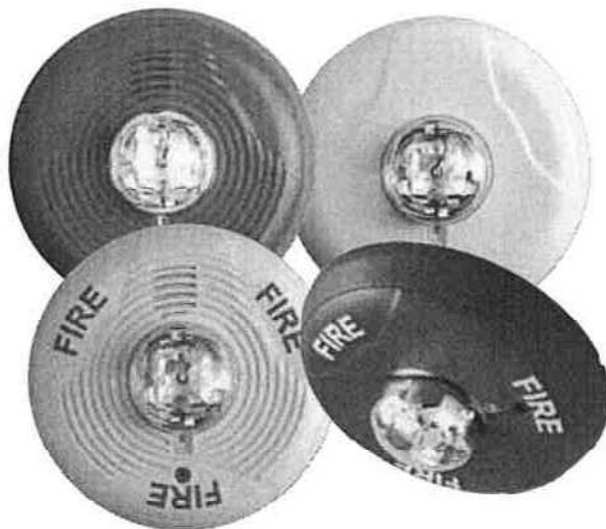
3825 Ohio Avenue • St. Charles, IL 60174
 Phone: 800-SENSOR2 • Fax: 630-377-6495

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 for current product information, including the latest version of this data sheet.
 AVDS00601 • 3/12



Indoor Selectable-Output Strobes and Horn Strobes for Ceiling Applications

SpectrAlert® Advance audible visible notification products are rich with features guaranteed to cut installation times and maximize profits.



SPECTRAlert
ADVANCE
from System Sensor

Features

- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Field-selectable candela settings on ceiling units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and three volume selections
- Universal mounting plate for ceiling units
- Mounting plate shorting spring checks wiring continuity before device installation
- Electrically Compatible with legacy SpectrAlert devices
- Compatible with MDL sync module

The SpectrAlert Advance series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry. With white and red plastic housings, wall and ceiling mounting options, and plain and FIRE-printed devices, SpectrAlert Advance can meet virtually any application requirement.

Like the entire SpectrAlert Advance product line, ceiling-mount strobes and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation and protect devices from construction damage, SpectrAlert Advance utilizes a universal mounting plate with an onboard shorting spring, so installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to suit a wide range of application requirements using field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with three volume selections.

Agency Listings



S4011 (chimes, horn strobes, horns)
S5512 (strobes)



3023572



MEA452-05-E



7125-1653:186 (indoor strobes)
7125-1653:188 (horn strobes,
chime strobes)
7135-1653:189 (horns, chimes)

SpectrAlert Advance Specifications

Architect/Engineer Specifications

General

SpectrAlert Advance strobes and horn strobes shall mount to a standard 4 x 4 x 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 x 4 x 1½-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance products, when used with the Sync-Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync-Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 9 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 17 and 33 volts. Indoor SpectrAlert Advance products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185.

Strobe

The strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Horn Strobe Combination

The horn strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have three audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. On four-wire products, the strobe shall be powered independently of the sounder. The horn on horn strobe models shall operate on a coded or non-coded power supply.

Synchronization Module

The module shall be a System Sensor Sync-Circuit model MDL listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a 4½/16 x 4½/16 x 2½/16-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications

Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 DC/FWR or regulated 24 DC/FWR ¹
Operating Voltage Range²	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Ceiling-Mount Dimensions (including lens)	6.8" diameter x 2.5" high (173 mm diameter x 64 mm high)
Ceiling-Mount Back Box Skirt Dimensions (BBSC-2, BBSCW-2)	7.1" diameter x 2.2" high (180 mm diameter x 57 mm high)
Ceiling-Mount Trim Ring Dimensions (sold as a 5 pack) (TRC-HS, TRCW-HS)	6.9" diameter x 0.35" high (175 mm diameter x 9 mm high)

Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 15/75 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)					
	Candela	8-17.5 Volts		16-33 Volts	
		DC	FWR	DC	FWR
Standard Candela Range	15	123	128	66	71
	15/75	142	148	77	81
	30	NA	NA	94	96
	75	NA	NA	158	153
	95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
High Candela Range	135	NA	NA	228	207
	150	NA	NA	246	220
	177	NA	NA	281	251
	185	NA	NA	286	258

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, Standard Candela Range (15-115 cd)									
DC Input	8-17.5 Volts		16-33 Volts						
	15	15/75	15	15/75	30	75	95	110	115
Temporal High	137	147	79	90	107	176	194	212	218
Temporal Medium	132	144	69	80	97	157	182	201	210
Temporal Low	132	143	66	//	93	154	179	198	207
Non-Temporal High	141	152	91	100	116	176	201	221	229
Non-Temporal Medium	133	145	75	85	102	163	187	207	216
Non-Temporal Low	131	144	68	79	96	156	182	201	210
FWR Input									
Temporal High	136	155	88	97	112	168	190	210	218
Temporal Medium	129	152	78	88	103	160	184	202	206
Temporal Low	129	151	76	86	101	160	184	194	201
Non-Temporal High	142	161	103	112	126	181	203	221	229
Non-Temporal Medium	134	155	85	95	110	166	189	208	216
Non-Temporal Low	132	154	80	90	105	161	184	202	211

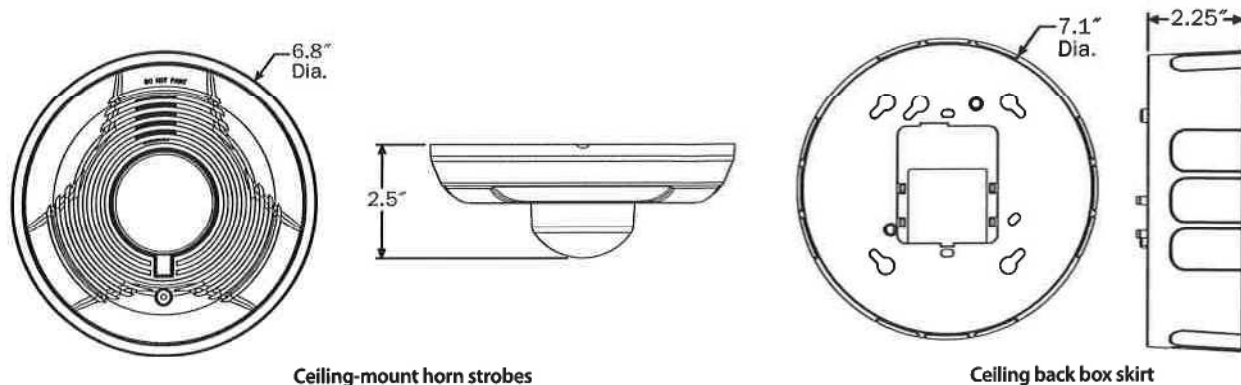
UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, High Candela Range (135-185 cd)									
DC Input	16-33 Volts				FWR Input	16-33 Volts			
	135	150	177	185		135	150	177	185
Temporal High	245	259	290	297	Temporal High	215	231	258	265
Temporal Medium	235	253	288	297	Temporal Medium	209	224	250	258
Temporal Low	232	251	282	292	Temporal Low	207	221	248	256
Non-Temporal High	255	270	303	309	Non-Temporal High	233	248	275	281
Non-Temporal Medium	242	259	293	299	Non-Temporal Medium	219	232	262	267
Non-Temporal Low	238	254	291	295	Non-Temporal Low	214	229	256	262

Horn Strobe Tones and Sound Output Data

Horn Strobe Output (dBA)										
Switch Position	Sound Pattern	dB	8-17.5 Volts		16-33 Volts		24-Volt Nominal			
			DC	FWR	DC	FWR	Reverberant		Anechoic	
							DC	FWR	DC	FWR
1	Temporal	High	78	78	84	84	88	88	99	98
2	Temporal	Medium	74	74	80	80	86	86	96	96
3	Temporal	Low	71	73	76	76	83	80	94	89
4	Non-Temporal	High	82	82	88	88	93	92	100	100
5	Non-Temporal	Medium	78	78	85	85	90	90	98	98
6	Non-Temporal	Low	75	75	81	81	88	84	96	92
7†	Coded	High	82	82	88	88	93	92	101	101
8†	Coded	Medium	78	78	85	85	90	90	97	98
9†	Coded	Low	75	75	81	81	88	85	96	92

†Settings 7, 8, and 9 are not available on 2-wire horn strobes.

SpectrAlert Advance Dimensions



SpectrAlert Advance Ordering Information

Model	Description
Ceiling Horn Strobes	
PC2R*	2-Wire Horn Strobe, Standard cd, Red
PC2RH	2-Wire Horn Strobe, High cd, Red
PC2W*†	2-Wire Horn Strobe, Standard cd, White
PC2WH*	2-Wire Horn Strobe, High cd, White
PC4R	4-Wire Horn Strobe, Standard cd, Red
PC4RH	4-Wire Horn Strobe, High cd, Red
PC4W	4-Wire Horn Strobe, Standard cd, White

Model	Description
Ceiling Strobes	
SCR	Strobe, Standard cd, Red
SCRH	Strobe, High cd, Red
SCW*	Strobe, Standard cd, White
SCWH	Strobe, High cd, White
Accessories	
BBSC-2	Back Box Skirt, Ceiling, Red
BBSCW-2	Back Box Skirt, Ceiling, White
TRC-HS	Trim Ring, Ceiling, Red
TRCW-HS	Trim Ring, Ceiling, White

Notes:

* Add "-P" to model number for plain housing (no "FIRE" marking on cover), e.g., P2R-P.

† Add "-SP" to model number for "FUEGO" marking on cover, e.g., P2R-SP.

‡ "Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings. "High cd" refers to strobes that include 135, 150, 177, and 185 candela settings.



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 AVDS00500 • 6/11 • #2806