

31-95
CALLED
PERMIT NO. 2663-95

SEP 5 1995



CONSTRUCTION PERMIT APPLICATION

Applicant Completes: Sections I, II, III (optional), IV, VI and VII

~~DIV. OF INSPECTION~~

I. IDENTIFICATION

1. Proposed Work-site at: OSBORNEVILLE SCHOOL
2. Name of Owner In Fee: BRICK TOWNSHIP Bd. of ED Tel. () 477-2800
- Address 101 HENDRICKSON AVE.
- street municipality zip code
3. Ownership in Fee: Public ✓ Private
4. Principal Contractor: WARDELL SECURITY Tel. () 363-0550
- Address PO Box 44 HOWELL, NJ 07731
- License No. OR, if new home, Builder Reg. No. Exp. Date
- Federal Emp. No. 222-136974 Social Security No.
5. Architect or Engineer Tel. ()
- Address
6. Responsible Person in Charge of Work ED WARDELL Tel. () 363-0550

II. PROPOSED WORK

1. ☐ Minor work
(single trade)
2. ☐ Small Job (\$5,000
and no prior approvals)
3. ☐ New Building
4. ☐ Addition
5. ☐ Alteration
6. ☒ Fire Protection
7. ☐ Plumbing
8. ☐ Electrical
9. ☐ Elevator Devices
10. ☐ Asbestos Abatement
11. ☐ Demolition
- TOTAL COSTS**

Est. Cost

OPTIONAL (for office use only)[illegible]

III. DO YOU WANT: (optional) 1 ☐ Partial Releases 2. ☐ Prototype Processing

IV. DOES OR WILL YOUR BUILDING CONTAIN ANY OF THE FOLLOWING?

1. ☐ Elevators/Escalators/Lifts/
Dumbwaiters/Moving Walks
2. ☐ High Pressure Boilers
3. ☐ Pressure Vessels
4. ☐ Refrigeration Systems
5. ☐ Cross-Connections/Backflow
Preventers
6. ☐ Hazardous Uses/Places of Assembly
7. ☐ Sprinklers
8. ☐ Smoke Control Systems in Open Wells
9. ☐ Underground Storage Tanks

V. FEE SUMMARY (for office use only)

		Update	Update
1. Building	\$		
2. Electrical			
3. Plumbing			
4. Fire Protection			
5. Elevator Devices			
6. Subtotal	\$		
7. Less 20% for State Plan Review			
8. Subtotal	\$		
9. DCA Training Fee			
10. Subtotal	\$		
11. Cert. of Occupancy			
12. Other			
13. TOTAL	\$		

VI. BUILDING/SITE CHARACTERISTICS

1. Number of Stories _____
2. Height of Structure _____ ft.
3. Area—Largest Floor _____ sq. ft.
4. New Building Area _____ sq. ft.
5. Volume of New Structure _____ cu. ft.
6. Construction Classification _____
7. Total Land Area Disturbed _____ sq. ft.
8. Flood Hazard Zone _____
9. Base Flood Elevation _____ ft.
10. Wetlands yes _____ sq. ft.
 no _____
11. Max. Live Load _____
12. Max. Occupancy Load _____

(office use only)

VII. DESCRIPTION OF BUILDING USE

A. RESIDENTIAL

1. ☐ Hotels (R-1)
2. ☐ Multi-Family (R-2)
3. ☒ Two-Family (R-3) BOCA
4. ☐ Two-Family (R-4) CABO
5. ☐ One-Family (R-3) BOCA
6. ☐ One-Family (R-4) CABO

No of dwelling units:

Before Construction _____

After Construction _____

Net gain or loss _____

B. NON-RESIDENTIAL

1. State Specific Use:
2. Use Group:
3. Change in Use Group, Indicate Former:

LDS BR 10409082

CERTIFICATION IN LIEU OF OATH

I. OWNER SECTION (to be completed if the applicant is the owner in fee)

I hereby certify that I am the owner in fee of the property listed on Page 1.

Mark the following applicable boxes:

A. () I further certify that a new home (private residence) will be constructed on this property for my own use and occupancy. This dwelling is to be occupied by myself and is not to be used for any purpose other than single family residential use. I attest that all construction, plumbing, or electrical work will be done, in whole or in part, by me or by subcontractors under my supervision, in accordance with all applicable laws; and, I further acknowledge that said new home is not covered under the New Home Warranty and Builders Registration Act (N.J.S.A. 46:3B-1 et seq.) and that such fact shall be disclosed to any person purchasing this property within ten years of the date of issuance of a certificate of occupancy.

I UNDERSTAND THAT IN MARKING BOX A, I ACKNOWLEDGE THAT I AM ASSUMING RESPONSIBILITY FOR THE WORK DONE ON SAID PROPERTY, THE CONDITION OF THE PROPERTY PRIOR TO, DURING, AND AFTER ANY WORK PERFORMED, AND FOR THE PERFORMANCE OF THE SUBCONTRACTORS I HIRE, EMPLOY, OR OTHERWISE CONTRACT OR WITH WHOM I MAKE AGREEMENTS TO PERFORM WORK. I AM VOLUNTARILY AND KNOWINGLY ASSUMING THIS RESPONSIBILITY.

B. () I further certify the following as required by the New Jersey Uniform Construction Code, N.J.A.C. 5:23-2.15(e)1.vii:

I personally prepared the plans submitted for: 1) the new home referred to in A.; or, 2) an addition, alteration, renovation, or repair to an existing single family residence owned and occupied by myself and located on the property listed on Page 1; or, 3) a new structure that will be physically separate from, but that will be deemed part of, an existing single family residence that is owned and occupied by myself and located on the property listed on Page 1.

C. () I further certify that I will perform or supervise the following work:

C.1. () Building C.2. () Fire Protection

I further certify that I will perform the following work:

C.3. () Electrical C.4. () Plumbing

D. () I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I understand that if any of the above statements are willfully false, I am subject to punishment.

Signature _____ Date _____

II. AGENT SECTION

(to be completed if the applicant is not the owner in fee)

I hereby certify the following as required by the New Jersey Uniform Construction Code, N.J.A.C. 5:32-2.15(d): the proposed work is authorized by the owner in fee; and I have been authorized by the owner in fee to make this application as his agent.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I understand that if any of the above statements are willfully false, I am subject to punishment.

() Check if contractor.

Agent Name WARDELL SECURITY SERVICES

Address PO Box 44
HOWELL, NJ 07731

Telephone () 363-0550

Signature [Signature] Date 8/8/95

OFFICE DATE RECEIVED: _____

VIII. PRIOR APPROVALS CHECKLIST (office use only)	LOCAL APPROVAL		COUNTY APPROVAL		REGIONAL APPROVAL		STATE APPROVAL		COMMENTS
	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	
☐ Zoning Officer									
☐ Planning Board									
☐ Zoning Board									
☐ Sewer Authority									
☐ Water Authority									
☐ Fire Department									
☐ Police Department									
☐ Health Department									
☐ Soil Conservation									
☐ N.J. Dept. of Community Affairs									
☐ N.J. Department of Transportation									
☐ N.J. Dept. of Environmental Protection									
☐ Utility Dig No.									
☐									
☐									

IX. SUBCODES AND SPECIAL REGULATIONS APPLICABLE (office use only—optional)

Name of Code & Edition	Name of Code & Edition	Other
Building _____	Energy _____	
Electrical _____	Barrier Free _____	
Plumbing _____	Flood Hazard _____	
Fire Protection _____	As Built Elevation Cert. _____	
Mechanical _____	Other _____	

X. CERTIFICATES ISSUED (office use only)

	DATE ISSUED	DATE EXPIRED	DATE REISSUED	DATE EXPIRED
☐ Temporary Certificate of Occupancy	No. _____	_____	_____	_____
☐ Temporary Certificate of Compliance	No. _____	_____	_____	_____
☐ Continued Certificate of Occupancy	No. _____	_____	_____	_____
☐ Certificate of Compliance	No. _____	_____	_____	_____
☐ Certificate of Occupancy	No. _____	_____	_____	_____
☐ Certificate of Approval	No. _____	_____	_____	_____



CONSTRUCTION PERMIT

Date Issued
Control #
Permit #

10/6/95

2553-95

IDENTIFICATION Block 646 Lot 41

Work Site Location Danvers, VT.

Contractor Wendell Security

Address P.O. Box 44

Owner in Fee Shelton Rd. 147

Address 101 Hinchman

Tele. () 1111

Tele. () 1111

Lic. No. or Bldrs. Reg. No. Exp. Date

Federal Emp. No.

or Social Security No.

Is hereby granted permission to perform the following work:

☐ BUILDING ☐ PLUMBING ☐ OTHER

☐ ELECTRICAL ☐ FIRE PROTECTION

☐ ELEVATOR DEVICES

DESCRIPTION OF WORK:

Fire System

NOTE: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work \$ 5200

[Signature]

U.C.C. Form F-170C

CONSTRUCTION OFFICIAL

PAYMENTS (Office Use Only)

Building

Plumbing

Electrical 61

Fire Protection

Other TV

Other Rest

DCA Training Fee mp

Cert. of Occ. 11

Other

Total

Check No.

Cash

Collected By: [Signature]



**FIRE PROTECTION
SUBCODE
TECHNICAL SECTION**



Date Received
Date Issued
Control #
Permit #

10/6/95
2553-95

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 646 Lot 41
Work Site Location OSBORNEVILLE SCHOOL
Owner in Fee BRICK BOARD OF EDUCATION
Address 151 HENDRICKSON AVE
BRICK, NJ
Tele. () 474-2800
Contractor WARDLE SECURITY
Address PO Box 44
HOWELL NJ 07721
Tele. () 363-0550
Lic. No. _____
Federal Emp. No. 222-136974 or Social Security No. _____

B. FIRE PROTECTION CHARACTERISTICS

Use Group _____ Present _____ Proposed _____
Constr. Class. _____ Present _____ Proposed _____
Heating Systems () New () Existing
Type: () Gas () Oil () Electrical () Solar
() Other _____
Location: _____

Total Est. Cost of Fire Prot. Work \$ _____ () Other _____

JOB SUMMARY (Office Use Only)

PLAN REVIEW:	INSPECTIONS:	Dates (Month/Day)
	Type:	Failure Failure Approval Initial
() No Plans Required	Suppression Test	
Joint Plan Review Required:	Fire Alarm Test	10/12/95
() Bldg. () Plumb.	Smoke Test	
() Elec. () Elevator	Mechanical	
(X) Fire Plans Approved	TCO	
Date: <u>9-11-95</u>	Other	
Approved by: _____	Other	
SUBCODE APPROVAL:	Other	
() CO () CCO () CA	Other	
Date: <u>10/12/95</u>	Other	
Approved by: _____		

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application.

SIGNATURE _____

D. TECHNICAL SITE DATA

Description of Work

Water Supply Source _____
Method of Valve Supervision _____
Local Alarm Supervision _____
Central Supervision _____
Proprietary Supervision _____

Flammable Liquid Storage Tanks	() Capacity	Fuel
Combustible Liquid Storage Tanks	() Capacity	Fuel
L.P.G. Storage Tanks	() Capacity	Fuel
L.N.G. Storage Tanks	() Capacity	Fuel

Wet Sprinkler Heads	Number	FEE (Office Use Only)
Dry Sprinkler Heads		
TOTAL		

Smoke Detectors	Number	FEE (Office Use Only)
Heat Detectors		
TOTAL		

Stand Pipes	Number	FEE (Office Use Only)
Kitchen Hood Exhaust Systems		

Pre-Engineered Systems	Number	FEE (Office Use Only)
CO ₂ Suppression		
Halon Suppression		
Foam Suppression		
Dry Chemical		
Wet Chemical		

Gas or Oil Fired Appliance	Number	FEE (Office Use Only)
OTHER <u>ADD HOOD/STOVE</u>		
<u>FIRELITE 9300 POWER</u>		

Paid () Check # _____	Administrative Surcharge
Minimum Fee	\$ <u>66</u>
DCA Training Fee	\$ _____
Collected by: _____	TOTAL FEE \$ _____



**FIRE PROTECTION
SUBCODE
TECHNICAL SECTION**

9-34-95
10/6/95
2553-95
Permit #
Control #
Date Issued

A. IDENTIFICATION - APPLICANT: COMPLETE ALL APPLICABLE INFORMATION WHEN CHANGING CONTRACTORS. NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 646 Lot 41
Work Site Location OSBORVILLE SCHOOL
Owner In Fee BRICK BOARD OF EDUCATION
Address 101 HENDRICKSON AVE
BRICK, NJ
Tel. () 479-2800
Contractor WARDEN SECURITY
Address PO Box 44
HOWELL NJ 07731
Tel. () 363-0550
Lic. No. _____
Federal Emp. No. 202-136974 or Social Security No. _____

B. FIRE PROTECTION CHARACTERISTICS

Use Group Present _____ Proposed _____
Constr. Class. Present _____ Proposed _____
Heating Systems [] New [] Existing
Type: [] Gas [] Oil [] Electrical [] Solar
[] Other _____
Location: _____
Total Est. Cost of Fire Prot. Work \$ _____ [] Other _____

JOB SUMMARY (Office Use Only)

PLAN REVIEW:		INSPECTIONS:		Dates (Month/Day)		
		Type:	Failure	Failure	Approval	Initial
[] No Plans Required						
Joint Plan Review Required:		Suppression Test				
[] Bldg. [] Plumb.		Fire Alarm Test				
[] Elec. [] Elevator		Smoke Test				
[X] Fire Plans Approved		Mechanical				
Date: <u>9-11-95</u>		TCO				
Approved by: _____		Other				
SUBCODE APPROVAL:		Other				
[] CO [] CCO [] CA		Other				
Date: _____						
Approved by: _____						

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application.

SIGNATURE _____

D. TECHNICAL SITE DATA

Description of Work
Water Supply Source _____
Method of Valve Supervision _____
Local Alarm Supervision _____
Central Supervision _____
Proprietary Supervision _____
Flammable Liquid Storage Tanks _____ Fuel _____
Combustible Liquid Storage Tanks _____ Fuel _____
L.P.G. Storage Tanks _____ Fuel _____
L.N.G. Storage Tanks _____ Fuel _____
() Capacity _____
() Capacity _____
() Capacity _____

Wet Sprinkler Heads _____
Dry Sprinkler Heads _____
TOTAL _____

Smoke Detectors _____
Heat Detectors _____
TOTAL _____

Stand Pipes _____
Kitchen Hood Exhaust Systems _____

Pre-Engineered Systems _____

CO₂ Suppression _____
Halon Suppression _____
Foam Suppression _____
Dry Chemical _____
Wet Chemical _____

Gas or Oil Fired Appliance _____
OTHER ADA HOOD STORAGE 20
FIRELITE 9200 PINK 1

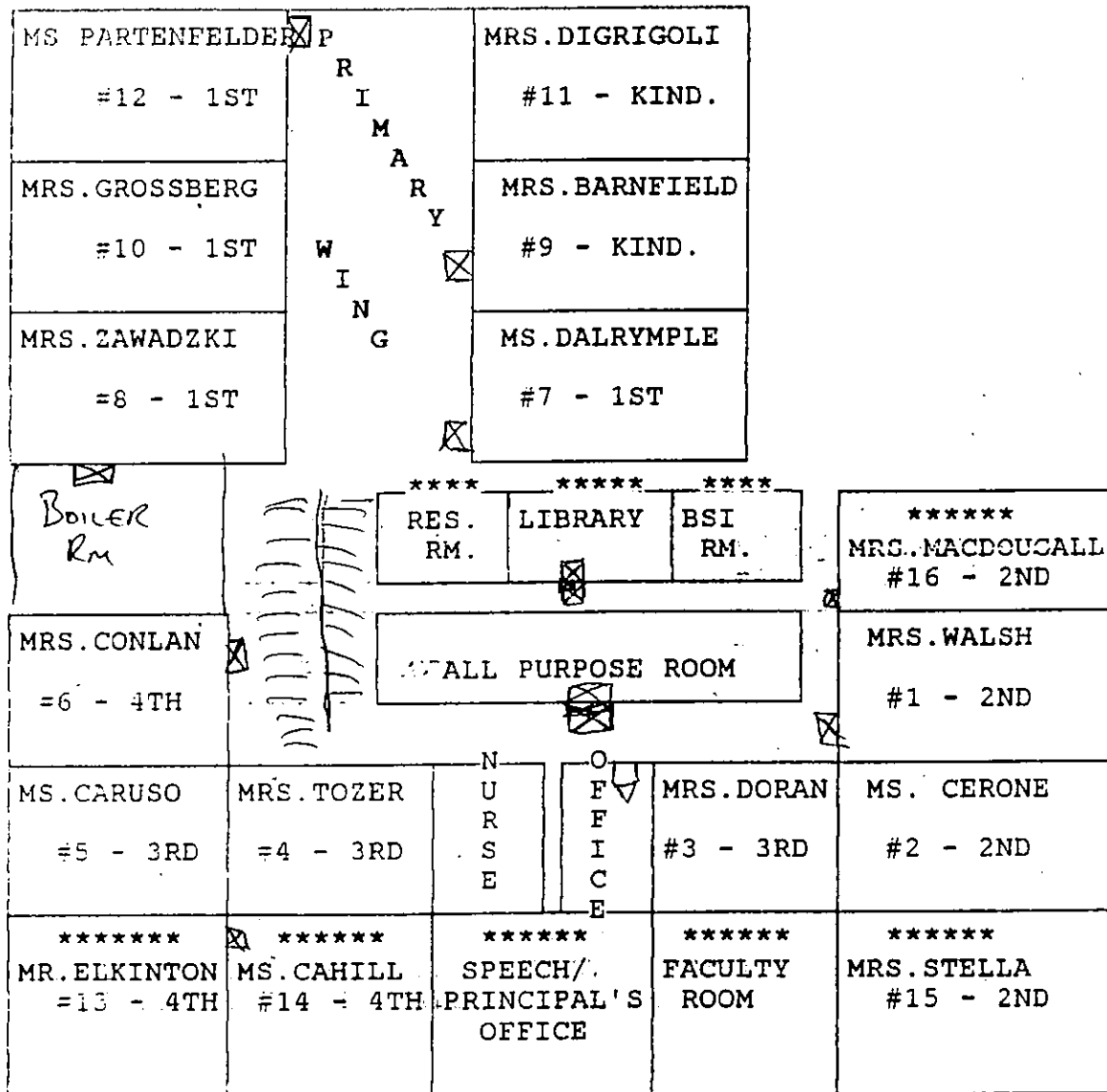
Paid [] Check # _____
Collected by: _____
Administrative Surcharge \$ _____
Minimum Fee \$ _____
DCA Training Fee \$ _____
TOTAL FEE \$ 66-

FEE (Office Use Only)

46

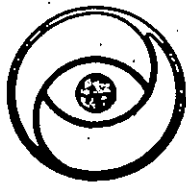
OSBORNVILLE SCHOOL

FLOOR PLAN :



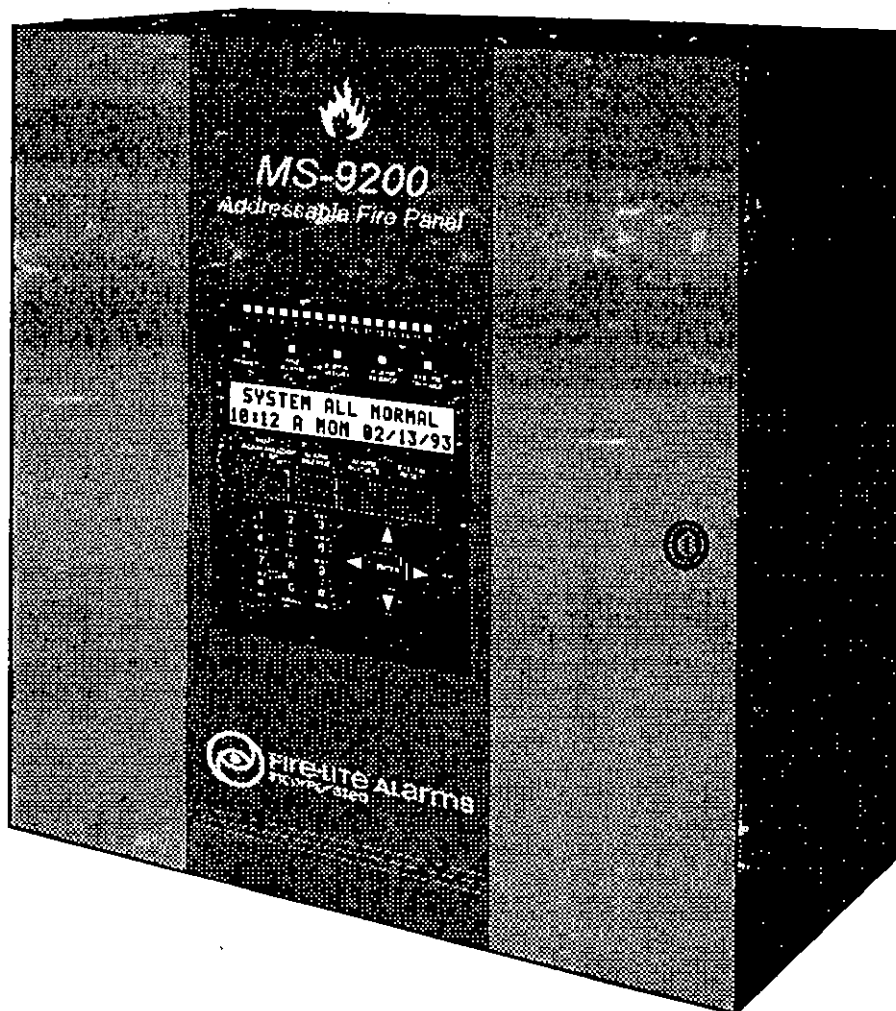
NOTE: ***** = DOWNSTAIRS AREA

X - Horn Strobe
 A - Control Panel



**Fire-Lite[®]
Alarms Inc.**
12 Clintonville Road, Northford, CT 06472

Technical Manual



MS-9200 Addressable Fire Control Panel



NFPA Standards

THE MS-9200 COMPLIES WITH THE FOLLOWING NFPA STANDARDS:

NFPA 71 Central Station Signaling Systems (Automatic, Manual, and Waterflow) Protected Premises Unit (requires UDACT-485).

NFPA 72 Local (Automatic, Manual, Waterflow and Sprinkler Supervisory) Protective Signaling Systems.

NFPA 72 Auxiliary (Automatic, Manual, and Waterflow) Protective Signaling Systems (requires RTM-8F).

NFPA 72 Remote Station (Automatic, Manual, and Waterflow) Protective Signaling Systems. (Requires RTM-8F or UDACT-485.) *

NFPA 72 Proprietary (Automatic, Manual, and Waterflow) Protective Signaling Systems (Protected Premises Unit).

IN ADDITION TO THE ABOVE, THE INSTALLER SHOULD BE FAMILIAR WITH THE FOLLOWING DOCUMENTS AND STANDARDS:

NFPA 72E Automatic Fire Detectors

NFPA 72G Installation, Maintenance, and Use of Notification Appliances for Protective Signaling Systems

NFPA 72H Testing Procedures for Signaling Systems

Underwriters Laboratories:

UL 38 Manually Actuated Signaling Boxes

UL 217 Smoke Detectors, Single and Multiple Station

UL 228 Door Closers - Holders for Fire Protective Signaling Systems

UL 268 Smoke Detectors for Fire Protective Signaling Systems

UL 268A Smoke Detectors for Duct Applications

UL 346 Waterflow Indicators for Fire Protective Signaling Systems

UL 464 Audible Signaling Appliances

UL 521 Heat Detectors for Fire Protective Signaling Systems

UL 864 Standard for Control Units for Fire Protective Signaling Systems

UL 1481 Power Supplies for Fire Protective Signaling Systems

UL 1971 Visual Signaling Appliances

UL 1076 Proprietary Burglar Alarm Systems

UNDERWRITERS LABORATORIES OF CANADA (ULC) LISTED

Standard CAN/ULC-S527-M87

OTHER:

EIA-485 and EIA-232 Serial Interface Standards

NEC Article 300 Wiring Methods

NEC Article 760 Fire Protective Signaling Systems

Applicable Local and State Building Codes

Requirements of the Local Authority Having Jurisdiction

FIRE-LITE DOCUMENTS AND MANUALS RELATING TO THE MS-9200:

Fire-Lite Device Compatibility Document Document# 15384

Annunciator Modules Document# 15390

AFM-16ATF and AFM-32AF Annunciators Document# 15970

AFM-16AF Annunciator Document# 15210

MS-5012 Communicator Document# 15465

MS-9200 Off Line Programming Utility Document# 15677

INSTALLATION INSTRUCTIONS MULTITONE STROBE SIGNALS

GENERAL:

The Multitone Strobe Signals are designed to meet the requirements of the National Fire Protection Association (NFPA) for Fire Alarm Signaling and UL Standard 464 for Audible Signal. They are listed for use with the flashlights specified in these instructions (See Mounting Options). Models with 12, 24, and 30 strobes are listed for wall or ceiling mounting; models with LSM strobes are listed for wall mounting. The Multitone Strobe Signals use a xenon flashtube with solid state circuitry enclosed in a rugged Lexan® lens to provide maximum visibility and reliability for effective visible signaling.

Multitone Strobe Signals can be field set to produce any one of eight commonly used alarm tones. Sound output can be field set to provide either HIGH (HI) dBA or STANDARD (STD) dBA sound output level.

All Multitone Strobe models are designed for use with either filtered DC or unfiltered Full-Wave-Rectified (FWR) input voltage. The Multitone Strobe Signals have separate input terminals for alarm tone activation and strobe activation. Shunt wires are provided to operate both the alarm tone and the strobe simultaneously on a single input circuit (See Wiring Diagram). All inputs are polarized for compatibility with standard reverse polarity supervision of circuit wiring by a Fire Alarm Control Panel (F.A.C.P.).

WARNING: PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE USING THIS PRODUCT. FAILURE TO COMPLY WITH ANY OF THE FOLLOWING INSTRUCTIONS, CAUTIONS AND WARNINGS COULD RESULT IN IMPROPER APPLICATION, INSTALLATION AND/OR OPERATION OF THESE PRODUCTS IN AN EMERGENCY SITUATION, WHICH COULD RESULT IN PROPERTY DAMAGE, SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

WARNING: THE MULTITONE STROBE SIGNALS MUST BE FIELD SET TO THE DESIRED dBA SOUND OUTPUT LEVEL AND ALARM TONE BEFORE THEY ARE INSTALLED. THIS IS DONE BY PROPERLY INSERTING A JUMPER PLUG AND ADJUSTING A FOUR POSITION SWITCH IN ACCORDANCE WITH THESE INSTRUCTIONS. INCORRECT SETTINGS WILL RESULT IN IMPROPER PERFORMANCE AND MAY DAMAGE THE PRODUCT.

NOTE: All CAUTIONS and WARNINGS are identified by the symbol . All warnings are printed in bold capital letters.

SPECIFICATIONS:

Model	Nominal Voltage (VDC)	Rated Voltage (VDC)	Strobe Candela (CD)	Anechoic dBA at 10 feet	Mounting Options
MT-12-LS	12	10.5-15.6	15	87-99	A,B,C,D E,F,G
MT-12-LSM	12	10.5-15.6	15*	87-99	
MT-12-MS	12	10.5-15.6	30	87-99	
MT-24-LS	24	20-31	15	87-99	
MT-24-LSM	24	20-31	15*	87-99	
MT-24-MS	24	20-31	30	87-99	
MT-24-IS	24	20-31	75	87-99	H
MT4-12-LS	12	10.5-15.6	15	87-99	
MT4-12-LSM	12	10.5-15.6	15*	87-99	
MT4-12-MS	12	10.5-15.6	30	87-99	
MT4-24-LS	24	20-31	15	87-99	
MT4-24-LSM	24	20-31	15*	87-99	
MT4-24-MS	24	20-31	30	87-99	
MT4-24-IS	24	20-31	75	87-99	

*15cd models are listed at 15cd and meet 75cd on axis.

The UL Listed "Rated Voltage" range is 20-31 VDC or 10.5-15.6 VDC using either filtered (DC) or unfiltered full-wave-rectified (FWR) voltage. Check the minimum and maximum output of the power supply and standby battery and subtract the voltage drop from the circuit wiring resistance to determine the applied voltage to the signaling device.

WARNING: ALTHOUGH UL TESTING HAS VERIFIED THAT THESE PRODUCTS FUNCTION EVEN AT 80% OF THEIR MINIMUM RATING AND 110% OF THEIR MAXIMUM RATING, WHEELock STRONGLY RECOMMENDS THAT THE VOLTAGE APPLIED TO THESE PRODUCTS BE WITHIN THEIR RATED VOLTAGE RANGE. THE APPLICATION OF IMPROPER VOLTAGE MAY RESULT IN DEGRADED OPERATION OR DAMAGE TO THESE PRODUCTS.

Tone	Tone Description	Rated Average Current (Amps)		Rated Average Current (Amps)	
		24 VDC		12 VDC	
		HI dBA	STD dBA	HI dBA	STD dBA
Horn	Broadband Horn (Continuous)	0.040	0.023	0.100	0.020
Bell	1660 Hz Modulated (0.07 Sec. ON/Repeat)	0.014	0.012	0.031	0.010
March Time Horn	Horn (0.25 Sec. ON/0.25 Sec. OFF/Repeat)	0.040	0.023	0.100	0.020
Code-3 Horn	Horn (ANSI S3.41 Temporal Pattern)	0.040	0.023	0.100	0.020
Code-3 Tone	500 Hz (ANSI S3.41 Temporal Pattern)	0.028	0.017	0.060	0.015
Slow Whoop	500-1200 Hz Sweep (4.0 Sec. ON/0.5 Sec. OFF/Repeat)	0.048	0.028	0.100	0.025
Siren	600-1200 Hz Sweep (1.0 Sec. ON/Repeat)	0.036	0.023	0.082	0.020
HI/LO	1000/800 Hz (0.25 Sec. ON/Alternate)	0.020	0.014	0.044	0.012

Add 25% more input current than shown in Table 2 when operating the unit at maximum input voltage.

Add strobe current from Table 4 to audible signal current from Table 2 to obtain total current for each unit, if the strobe and audible are wired to operate in unison on a single circuit.

SYSTEM SENSOR™

A DIVISION OF PITTMAN

INSTALLATION AND MAINTENANCE INSTRUCTIONS FOR 2400 AND 2400TH DIRECT WIRE SMOKE DETECTORS

Before installing detectors, please thoroughly read System Sensor's Manual I56-407-XX, Guide for Proper Use of System Smoke Detectors. This manual provides detailed information on detector spacing, placement, zoning, wiring, and special applications. Copies of this manual are available at no charge from System Sensor (For installations in Canada refer to CAN4-S524, Standard for the Installation of Fire Alarm Systems and CEC Part 1, Sec. 32).

GENERAL DESCRIPTION

System Sensor 2400 photoelectronic detectors use state-of-the-art, optical sensing chambers. These detectors are designed to provide open area protection, and are intended for use with compatible UL-listed 2-wire control panels only. The detector's operation and sensitivity can be tested in place. Model 2400TH has the same specifications as model 2400, but also features a restorable, built-in, fixed temperature (135°F) thermal detection unit.

These detectors are listed to UL 268 and are latching type system detectors. When latched in alarm, the detectors must be reset by a momentary power interruption.

An LED on the detector provides a local indication of the detector's status. This LED blinks every 10 seconds when the detector is receiving power and ready in standby and is latched on continuously in alarm until the detector is reset. The detector provides an output for connection to an optional Remote Annunciator (Model RA400Z). The Remote Annunciator mounts to a single gang box and provides a supplementary alarm indication.

SPECIFICATIONS

Diameter:	5.5 inches (140 mm)
Height:	3.14 inches (80 mm) Add 0.5 inches (13 mm) for 2400TH.
Weight:	0.7 lb. (310 gm)
Operating Temperature Range:	Model 2400 — 0° to +49°C (32° to 120°F) Model 2400TH — 0° to 38°C (32° to 100°F)
Operating Humidity Range:	10% to 93% Relative Humidity Non-condensing
Maximum Air Velocity:	3000 ft/min (15m/s)
Locking Alarm:	Reset by momentary power interruption.

ELECTRICAL RATINGS

System Voltage:	12/24 VDC
Maximum Ripple Voltage:	4 Volts peak-to-peak
Start-up Capacitance:	0.02 μ F Maximum
Standby Ratings:	8.5 VDC Minimum 35 VDC Maximum 120 μ A Maximum
Alarm Ratings:	4.2 VDC Minimum at 10 mA 6.6 VDC Maximum at 100 mA Alarm current must be limited to 100mA maximum by the control panel. If used, the RA400Z Remote Annunciator operates within the specified detector alarm currents.
Reset Voltage:	2.5 VDC Minimum
Reset Time:	0.3 S Maximum
Start-up Time:	34 S Maximum

MOUNTING

Each 2400 detector is supplied with a mounting bracket kit that permits the detector to be mounted:

1. Directly to a 3-1/2 inch or 4 inch octagonal, 1-1/2 inch deep electrical box, (See Figure 1) or;
2. To a 4 inch square electrical box by using the plaster ring with the supplied mounting bracket kit.

E. Direct Heat Test (2400TH only)

To test the bi-metallic thermal collector on the Model 2400TH, use a low powered heat gun or blow dryer, aiming the heat source across the detector. Hold the heat source about 12 inches (30 cm) from the detector to avoid damaging the plastic. When the heat rises to greater than 135°F, the detector will latch in alarm. After the test, the bi-metallic collector will self-restore.

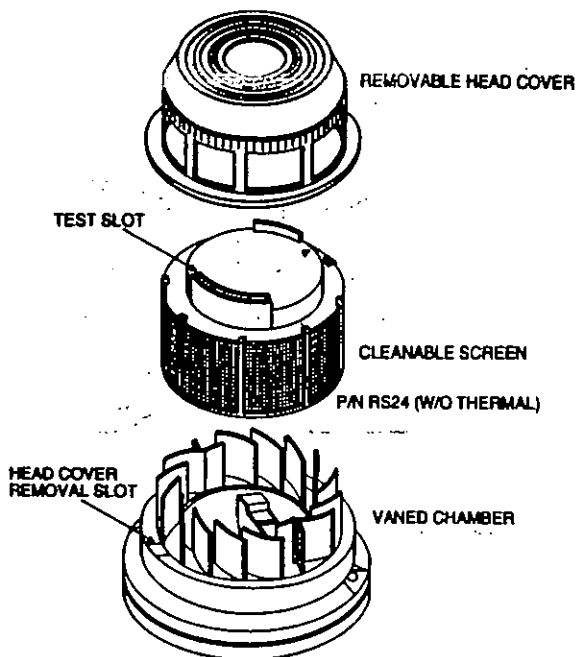
Notify the proper authorities that the system is back on line.

Clean and oil detectors that fail these tests as described under MAINTENANCE and retest. If a detector still fail these tests, return it for repair.

MAINTENANCE

NOTE: Before removing the detector, notify the proper authorities that the smoke detector system is undergoing maintenance and, therefore, will be temporarily out of service. Disable the zone or system undergoing maintenance to prevent unwanted alarms.

1. Remove the detector cover by placing a small bladed screwdriver in the side slot of the detector cover, twisting it slightly until the cover can be turned counterclockwise for removal.
2. Vacuum the screen carefully without removing it. If further cleaning is required continue with step 3, otherwise skip to step 6.
3. See Figure 5. Remove the screen by pulling it straight out. Vacuum the inside.
4. Clean the vaned chamber piece by vacuuming or blowing out dust and particles.
5. To replace the screen, orient it so that the arrow on top aligns with the test module socket of the detector. Carefully push the screen onto the base, making sure it fits tightly to the chamber.
6. Replace the cover by gently rotating it clockwise until it locks in place.
7. Notify the proper authorities that the system is back on line.



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Figure 5. Removal of cover and screen for cleaning.

WARNING

LIMITATIONS OF SMOKE DETECTORS

This smoke detector is designed to activate and initiate emergency action, but will do so only when used in conjunction with other equipment. This detector is designed for installation in accordance with NFPA standards 71, 72A, 72B, 72C, 72D, and 72E.

Smoke detectors cannot work without power. AC or DC powered smoke detectors will not work if the power supply is cut off for any reason.

Smoke detectors will not sense fires which start where smoke does not reach the detectors. Smoke from fires in chimneys, in walls, on roofs or on the other side of closed doors may not reach the smoke detector and alarm it.

A detector may not detect a fire developing on another level of a building. For this reason, detectors should be located on every level of a building.

Smoke detectors have sensing limitations, too. Ionization detectors offer a broad range fire-sensing capability, but they are better at detecting fast, flaming fires than slow smoldering fires. Photoelectric detectors sense smoldering fires better than flaming fires. Because fires develop in different ways, and are often unpredictable in their growth, neither type of detector is always best, and a given detector may not always provide warning of a fire. In general, detectors cannot be expected to provide warnings for fires resulting from inadequate fire protection practices, violent explosions, escaping gas, improper storage of flammable liquids like cleaning solvents, other safety hazards, or arson. Smoke detectors used in high air velocity conditions may fail to alarm due to dilution of smoke densities created by such frequent and rapid air exchanges. Additionally, high air velocity environments may create increased dust contamination, demanding more frequent maintenance.

Smoke detectors cannot last forever. Smoke detectors contain electronic parts. Even though detectors are made to last over 10 years, any of these parts could fail at any time. Therefore, test your smoke detector system per NFPA 72E at least semiannually. Clean and take care of your smoke detectors regularly. Taking care of the fire detection system you have installed will measurably reduce your product liability risks.

THREE YEAR LIMITED WARRANTY

System Sensor warrants its enclosed smoke detector to be free from defects in materials and workmanship under normal use and service for a period of three years from date of manufacture. System Sensor makes no other express warranty for this smoke detector. No agent, representative, dealer, or employee of the Company has the authority to increase or alter the obligations or limitations of this Warranty. The Company's obligation of this Warranty shall be limited to the repair or replacement of any part of the smoke detector which is found to be defective in materials or workmanship under normal use and service during the three year period commencing with the date of manufacture. After phoning System Sensor's toll free number 800-SENSOR2 (736-7672) for a Return Authorization number, send defective units postage prepaid to: System Sensor, Repair Department, RA # _____, 3825 Ohio Avenue, St. Charles, IL 60424. Please describe the suspected cause of failure. The Company shall not be obligated to repair or replace units which are found to be defective because of damage, unreasonable use, modifications, or alterations made after the date of manufacture. In no case shall the Company be liable for consequential or incidental damages, for breach of this warranty or otherwise, even if the loss or damage is caused by the Company's negligence or fault. Some states do not allow the exclusion or limitation of consequential or incidental damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.