

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK
CITY OF PORTLAND PERMIT ISSUED

Please Read Application And Notes, If Any, Attached

BUILDING DEPARTMENT

PERMIT

Permit Number 091244
NOV 3 0

This is to certify that East End Corp/Cunningham Security Systems
has permission to Install fire alarm system. City of Portland
AT 461 Cumberland Ave CL 036 F018001

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and written permission procured before this building or part thereof is lathed or otherwise dressed-in. 24 HOURS NOTICE IS REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

OTHER REQUIRED APPROVALS

Fire Dept. CAPT. R. Sauter

Health Dept. _____

Appeal Board _____

Other _____
Department Name

[Signature]
Director - Building & Inspection Services

PENALTY FOR REMOVING THIS CARD

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 09-1244	Issue Date:	CBL: 036 F018001
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Location of Construction: 461 Cumberland Ave	Owner Name: East End Corp	Owner Address: Po Box 10291	Phone:
Business Name:	Contractor Name: Cunningham Security Systems	Contractor Address: 10 Prince Point Road Yarmouth	Phone: 2078463350
Lessee/Buyer's Name	Phone:	Permit Type: Fire Alarm System	Zone: R-1

Past Use: Multi Family	Proposed Use: Multi Family / Install fire alarm system.	Permit Fee: \$310.00	Cost of Work: \$28,500.00	CEO District: 2
Proposed Project Description: Install fire alarm system. <i>legal use - 13 Duplex Rooms</i>		FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied <i>* See Conditions</i>	INSPECTION: Use Group: <input checked="" type="checkbox"/> Type: <i>Fire Alarm</i>	
		Signature: <i>(KG)</i>	Signature: <i>[Signature]</i>	
PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)				
Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied				
Signature: _____ Date: _____				

Permit Taken By: gg	Date Applied For: 11/04/2009	Zoning Approval		
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1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules. 2. Building permits do not include plumbing, septic or electrical work. 3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..	Special Zone or Reviews <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/> <i>OK w/ Municipality</i> Date: <i>11/4/09</i>	Zoning Appeal <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied Date: _____	Historic Preservation <input type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied <i>Any exterior work</i> Date: <i>Requires A</i> <i>Separate Review & Approval</i>
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CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

PERMIT ISSUED

SIGNATURE OF APPLICANT	ADDRESS	DATE NOV 30	PHONE
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		DATE City of Portland	PHONE

City of Portland, Maine - Building or Use Permit

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 09-1244	Date Applied For: 11/04/2009	CBL: 036 F018001
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Location of Construction: 461 Cumberland Ave	Owner Name: East End Corp	Owner Address: Po Box 10291	Phone:
Business Name:	Contractor Name: Cunningham Security Systems	Contractor Address: 10 Prince Point Road Yarmouth	Phone (207) 846-3350
Lessee/Buyer's Name	Phone:	Permit Type: Fire Alarm System	

Proposed Use: Multi Family / Install fire alarm system.	Proposed Project Description: Install fire alarm system.
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Dept: Zoning **Status:** Approved with Conditions **Reviewer:** Marge Schmuckal **Approval Date:** 11/04/2009

Note: **Ok to Issue:**

- 1) ANY exterior work requires a separate review and approval thru Historic Preservation. This property is located within an Historic District.
- 2) This is NOT an approval for an additional dwelling unit. You SHALL NOT add any additional kitchen equipment including, but not limited to items such as stoves, microwaves, refrigerators, or kitchen sinks, etc. Without special approvals.
- 3) This property shall remain thirteen dwelling units plus rooms. Any change of use shall require a separate permit application for review and approval.

Dept: Building **Status:** Approved with Conditions **Reviewer:** Tammy Munson **Approval Date:** 11/30/2009

Note: **Ok to Issue:**

- 1) All penetrations shall be protected with approved firestop materials per Sec. 712 of IBC.

Dept: Fire **Status:** Approved with Conditions **Reviewer:** Capt Keith Gautreau **Approval Date:** 11/10/2009

Note: **Ok to Issue:**

- 1) Fire Alarm system shall be maintained.
If system is to be off line over 4 hours a fire watch shall be in place.
Dispatch notification required 874-8576.
- 2) The Fire alarm and Sprinkler systems shall be reviewed by a licensed contractor[s] for code compliance.
Compliance letters are required.
- 3) The fire alarm system shall comply with NFPA 72 and Fire Department Technical Standard. A compliance letter is required.
- 4) Installation of a Fire Alarm system requires a Knox Box to be installed per city ordinance
- 5) All smoke detectors and smoke alarms shall be photoelectric. Carbon Monoxide detectors are required in the dwelling units by State law.
- 6) System acceptance and commissioning must be co-ordinated with alarm and suppression system contractors and the Fire Department. Call 874-8703 to schedule.
- 7) All fire alarm records required by NFPA 72 should be stored in an approved cabinet located at the FACP and keyed alike, labeled "FIRE ALARM RECORDS".

PERMIT ISSUED

NOV 30 2009

City of Portland

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

to schedule your inspections as agreed upon

Permits expire in 6 months, if the project is not started or ceases for 6 months.

The Owner or their designee is required to notify the inspections office for the following inspections and provide adequate notice. Notice must be called in 48-72 hours in advance in order to schedule an inspection:

By initializing at each inspection time, you are agreeing that you understand the inspection procedure and additional fees from a "Stop Work Order" and "Stop Work Order Release" will be incurred if the procedure is not followed as stated below.

A Pre-construction Meeting will take place upon receipt of your building permit.

 X **Final inspection performed by the Fire Department at completion of work.**

Certificate of Occupancy is not required for certain projects. Your inspector can advise you if your project requires a Certificate of Occupancy. All projects DO require a final inspection.

If any of the inspections do not occur, the project cannot go on to the next phase, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.

CERIFICATE OF OCCUPANICES MUST BE ISSUED AND PAID FOR, BEFORE THE SPACE MAY BE OCCUPIED.

Signature of Applicant/Designee

Date

Signature of Inspections Official

Date

PERMIT ISSUED

NOV 30

City of Portland



Fire Alarm Permit

036 F 018
MULTI UNITS

If you or the property owner owes real estate or property taxes or user charges on any property within the city, payment arrangements must be made before permits of any kind are accepted.

Installation address: 461-463 CUMBERLAND AVE.

Exact location: (within structure) _____

Type of occupancy(s) (NFPA & ICC): 16 UNIT MULTI FAMILY

Building owner: EAST END CORP

System Designer: MICHAEL MAJOR

Designer phone: 546-3350 E-mail: mmajor@CUMMINGHAMSECURITY.COM

Installing contractor: CUMMINGHAM SECURITY License No: ~~106600~~ MS600008944

Contractor phone: 546-3350 E-mail: SAWS

This is a new application: YES NO

This is an amendment to an existing permit: YES NO Permit no: _____

The following documents have been provided with this application:

- Floor plans: YES NO
- Wiring diagram: YES NO
- Annunciator details: YES NO
- Bid specifications: YES NO
- Equipment data sheets: YES NO
- Battery & voltage drop calculations: YES NO
- Input/ Output Matrix: YES NO
- Designer/ personnel qualifications: YES NO

COST OF WORK: \$28,500.⁰⁰
 PERMIT FEE: 310.00
 (\$10 PER \$1,000 + \$30 FOR THE FIRST \$1,000)

RECEIVED

NOV - 4 2009

**Dept. of Building Inspections
City of Portland Maine**

Download a new copy of this document from Inspection Division on-line at www.portlandmaine.gov for every submittal. Submit all plans on 11X17 copies or electronic PDF's in addition to full sized plans to the Building Inspections Department, 389 Congress Street, Room 315, Portland, Maine 04101.

Prior to acceptance of any fire alarm system, a complete commissioning and acceptance test must be coordinated with all fire system contractors and the Fire Department, and proper documentation of such test(s) provided.

All installation(s) must comply with NFPA 70, NFPA 72, and Fire Department Technical Standard(s).

Applicant signature: [Signature] Date: 11.4.09

DEFINITIONS

- FIRE ALARM SYSTEM:** A combination of components consisting of initiating devices, signal devices and control devices; all of which either report to or receive a signal from a central control point (FACP).
- HIGH-RISE:** Any structure seventy-five (75) feet or more above grade level. Lineal measure shall be from the lowest point of the occupiable space to the top floor of the structure as determined by the Fire Chief.
- CLASS "C" FIRE ALARM SYSTEM:** A fire alarm system of the least degree, intended to be used in occupancies where life safety hazards are minimal and the occupant load is low.
- CLASS "B" FIRE ALARM SYSTEM:** A fire alarm system intended to be used where life safety hazards are greater than usual due to higher fire loads, larger structures or greater occupant loads.
- CLASS "A" FIRE ALARM SYSTEM:** A fire alarm system required in all structures where the greatest hazards are present due to fire loads, high occupant density or excessive size. These systems are intended for use where total evacuation is impractical and/or the earliest possible warning is desirable and a need exists for the control of panic.

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- 1.11 All installations shall comply with the applicable requirements of NFPA 72, The National Electrical Code, and the Fire Prevention Bureau.
- 1.12 All applications for “Fire Alarm Permits” shall be made at the building inspection office on forms provided by the Fire Prevention Bureau. All information requested on the forms shall be completed when applicable to the proposed installation and all supportive documentation provided before the permit can be reviewed.
- 1.13 In addition to the “Fire Alarm Permit”, the installer shall apply for an electrical permit through the building inspection office.
- 1.14 Any application for a Class A or B fire alarm system shall include:
- 1) A copy of the Bid Specification.
 - 2) Complete descriptive data indicating “UL” listings for all system components.
 - 3) A complete description of the sequence of operation.
 - 4) A complete wiring diagram for all components being connected to the system.
 - 5) Floor plans indicating the placement of all equipment.
 - 6) Annunciator details showing the labeling of all zones.
 - 7) Battery Calculations.
- 1.14.1 Any application for a Class C fire alarm system shall include those items listed above as required by the Fire Prevention Bureau.
- 1.15 Any additions or modifications from approved plans will require the submission of an amendment and approval from the fire department.
- 1.16 After the completion of installation, the installation contractor shall provide the Fire Prevention Bureau with a “Fire Alarm Acceptance Report” per NFPA 72 before the “Certificate of Occupancy” can be issued.
- 1.17 All fire alarm wiring shall be protected from vandalism by means of electrical mechanical tubing (“EMT”) or metal conduit or concealment within the wall cavity.
- 1.18 Any fire alarm system, including all peripheral devices, shall be maintained and kept operational at all times. Whenever any initiating device is activated and rendered inoperable, it shall be repaired or replaced within twenty-four (24) hours. Any other component needing repair or replacement shall be started within twenty-four (24) hours of disablement and continued until completed as parts are received.
- 1.19 Any alarm system requiring more than one (1) zone shall be provided with individual zone disconnects.
- 1.20 Any Class “A” or “B” fire alarm system shall submit CAD drawings of said system.

INITIATING DEVICES**SECTION 3.0**

- 3.1 Exhaust hood extinguishing systems, halon systems, and standpipe systems shall be electrically connected to the evacuation system.
- 3.2 Detection devices located within concealed spaces or spaces deemed inaccessible by the Fire Prevention Bureau shall have an indicator visible to the firefighter from all normally occupied spaces approved by the Fire Prevention Bureau.
- 3.3 Any initiating device not connected to the FACP shall be so labeled.
- 3.4 All fire alarm pull stations, control equipment, and audio visual equipment shall be red, with the exception that FACP may be a different color when proper labeling is provided.
- 3.5 All areas that are part of a defined exit system (hallways, stairways, lobbies, etc.) and any areas prone to smoldering fires shall be protected with smoke detectors. All other areas shall be protected with heat detectors. The heat detectors shall be rate-of-rise in all cases when practical.
- 3.6 The fusing of any sprinkler head shall activate the fire alarm.
- 3.7 All detection devices shall be protected against radio frequency activation.

TYPE A FIRE ALARM SYSTEM PERFORMANCE STANDARDS
SECTION 5.0

5.1 Type "A" Fire Alarm System Performance Standards.

- 1) "UL" Listed
- 2) Meet all applicable NFPA; local and state standards
- 3) Supervision of all peripheral devices
- 4) Addressable detection devices
- 5) Alarm Verification
- 6) Voice communications
- 7) Firefighter telephones and/or radio communications
- 8) Municipal connection
- 9) Separate audio and visual trouble indication
- 10) Individual zone or device disconnect
- 11) Building systems status indication
- 12) Elevator recall
- 13) Sprinkler activation and zone indication
- 14) History recall
- 15) Prerecorded messages
- 16) Drill switch
- 17) "Knox Box"
- 18) Field programmable
- 19) Two (2) separate signal circuits per floor.

TYPE C FIRE ALARM SYSTEM PERFORMANCE STANDARDS
SECTION 7.0

- 7.1 Type "C" Fire Alarm System Performance Standards.
- 1) "UL" Listed
 - 2) Meet all applicable NFPA, local, and state standards
 - 3) Zone indication
 - 4) Separate audio and visual trouble indication
 - 5) Supervision of all peripheral devices
 - 6) Sprinkler activation and zone indication (when applicable)

AUXILIARY POWERED DEVICES	Enter Quantity	How many powered externally?	Steady State Power	Active Power	Power Factor	Power Factor	Total Steady State Current	Total Active Current	Total Power
PS24 24 volt Power Supply Module	0	0	50	100			0	0	0
4100SM (no more than one per system)	0	0	25	0			0	0	0
4204: Enter no. of relays used	0	0	40	0			0	0	0
4204CF: Enter no. of relays used	0	0	80				0	0	0
4285 Voice Module	0	0	160				0	0	0
4286 with warning speakers	0	0	220	300			0	0	0
5140DLM Backup Dialer Module	1	0	5	15			5	15	0
5800RP wireless repeater module	0	0	100				0	0	0
5800TM wireless xmtr module	0	0	20				0	0	0
5881EN receiver	1	0	60				60	0	0
5883 hi-security receiver	0	0	80				0	0	0
7845C Cellular Radio <input type="checkbox"/> Current Limited?	0	0	400				0	0	0
7845CV2 Cell Radio <input type="checkbox"/> Current Limited?	0	0	600				0	0	0
7845i Internet Communicator	0	0	110				0	0	0
997 Ceiling Mount PIR <input type="checkbox"/> LED Active?	0	0	12				0	0	0
998 Wall Mount PIR <input type="checkbox"/> LED Active?	0	0	13				0	0	0
Motion Detctrs (enter quant. & currents)	0	0	0	0			0	0	0
Motion Detctrs (enter quant. & currents)	0	0	0	0			0	0	0
Motion Detctrs (enter quant. & currents)	0	0	0	0			0	0	0
Motion Detctrs (enter quant. & currents)	0	0	0	0			0	0	0
FSA-8 fire zone annunciator	0	0	35	65			0	0	0
FSA-24 fire zone annunciator	0	0	35	130			0	0	0
UVS	0	0	75	110			0	0	0
VA8200 Panel Linking Module	0	0	88	0			0	0	0
VA8201 Alpha Pager Module	0	0	165	0			0	0	0
Add'l Device (enter quant. & currents)	0	0	0	0			0	0	0
Add'l Device (enter quant. & currents)	0	0	0	0			0	0	0

POLLING LOOP DEVICES	Enter Quantity	How many powered by 4297?	Steady State Power	Active Power	Power Factor	Power Factor	Total Steady State Current	Total Active Current	Total Power
4101SN Single Output Relay Module	0	0					7	0	
4190SN Two Zone SIM	0	0					2	0	
4190WH	0	0					2	0	
4191SN-WH	0	0					0.5	0	
4192CP	0	0					0.4	0	
4192SD Photoelectric Smoke Det.	0	0					0.4	0	
4192SDT	0	0					0.4	0	
4193SN Two Zone SIM	0	0					1.5	0	
4194 Contact	0	0					1	0	
4196	0	0					1	0	
4209U	0	0					15.5	0	
4275EX Dual PIR <input type="checkbox"/> LED Active?	0	0					1	0	
4275EX-SN Dual PIR <input type="checkbox"/> LED Active?	0	0					1	0	
4278EX-SN <input type="checkbox"/> LED Active?	0	0					1	0	
4293SN	0	0					1	0	
4939SN WH/BR/GY Surf Mt. Cntct.	0	0					1	0	
4944SN Recessed Contact	0	0					1	0	
4945SN-WH	0	0					0.5	0	
4959SN Overhead Door Contact	0	0					0.5	0	
5192SD Smoke Detector	0	0					2.8	0	
5192SDT Smoke Detector with Heat	0	0					2.8	0	
998MX PIR <input type="checkbox"/> LED Active?	0	0					1	0	
FG-1625SN Glass Break Detector	0	0					1	0	
Quest2260SN	0	0					6	0	
Vistakey	0	0					2	0	
Add'l VPlex (enter qnt'y & current)	0	0					0	0	
Add'l VPlex (enter qnt'y & current)	0	0					0	0	

12V NOTIFICATION DEVICES ON BELL OUTPUT #1	Enter Quantity	How many powered externally?	Alarm Current (Aux)	Standby (hours)	Alarm (minutes)	Standby Budget (hours)	Alarm Budget (minutes)
Enter device name, quant., & current	8	0	210	1680	0	0	0
Enter device name, quant., & current	0	0	210	0	0	0	0
Enter device name, quant., & current	0	0	0	0	0	0	0
Enter device name, quant., & current	0	0	0	0	0	0	0
Enter device name, quant., & current	0	0	0	0	0	0	0

12V NOTIFICATION DEVICES ON BELL OUTPUT #2 (IF USED)	Enter Quantity	How many powered externally?	Alarm Current (Aux)	Standby (hours)	Alarm (minutes)	Standby Budget (hours)	Alarm Budget (minutes)
Enter device name, quant., & current	0	0	210	0	0	0	0
Enter device name, quant., & current	0	0	0	0	0	0	0
Enter device name, quant., & current	0	0	0	0	0	0	0
Enter device name, quant., & current	0	0	0	0	0	0	0
Enter device name, quant., & current	0	0	0	0	0	0	0

12V AUX POWER AND BELL CIRCUIT WIRE RUN DATA	Units	Wire Gauge	Wire Run	Standby (hours)	Alarm (minutes)	Standby Budget (hours)	Alarm Budget (minutes)
Panel Aux Power Wire Run (twin lead)	Feet	<Select Wire Gauge>	0.00	1680.00	0	0.00	12.00
Panel Bell 1 Wire Run (twin lead)	Feet	<Select Wire Gauge>	0.00	1680.00	0	0.00	12.00
Panel Bell 2 Wire Run (twin lead)	Feet	<Select Wire Gauge>	0.00	0	0	0.00	12.00

Standby/Alarm Durations (from top)

Battery Standby (hours):	24
Alarm Duration (minutes):	6
Required Capacity (Ah):	1.299
Available Capacity (Ah):	7.0

PS24 POWER SUPPLY MODULE, MAXIMUM CAPACITIES

Panel 12V Standby (mA)	Panel 12V Alarm (mA)	Output A Standby (mA)	Output A Alarm (mA)	Output B Standby (mA)	Output B Alarm (mA)	PS24 PC Board (mA)	Maximum Total Standby Output	Maximum Total Alarm Output	Max. Battery Capacity
410	2315	570	1700	570	1700	40	810	4180	34.4
0.0	0.0	0	2880	0	0	40	40	2920	
410.0	2315.0	570.0	(1180.0)	570.0	1700.0		570.0	1260.0	34.4

24V NOTIFICATION APPLIANCES	Enter Device Names & Specifications	Enter Quantity	Output	Device Alarm Load (mA)	Standby (hours)	Alarm (minutes)	Standby Budget (hours)	Alarm Budget (minutes)
24V Notification Appliance	Output A	8	0	180	1440	0	0	0
24V Notification Appliance	Output A	8	0	180	1440	0	0	0
24V Notification Appliance	Output A	0	0	0	0	0	0	0
24V Notification Appliance	Output A	0	0	0	0	0	0	0
24V Notification Appliance	Output A	0	0	0	0	0	0	0
24V Notification Appliance	Output A	0	0	0	0	0	0	0
24V Notification Appliance	Output A	0	0	0	0	0	0	0
24V Notification Appliance	Output A	0	0	0	0	0	0	0
24V Notification Appliance	Output A	0	0	0	0	0	0	0
24V Notification Appliance	Output A	0	0	0	0	0	0	0
24V Notification Appliance	Output A	0	0	0	0	0	0	0
24V Notification Appliance	Output A	0	0	0	0	0	0	0
24V Notification Appliance	Output A	0	0	0	0	0	0	0
24V Notification Appliance	Output A	0	0	0	0	0	0	0
24V Notification Appliance	Output A	0	0	0	0	0	0	0
24V Notification Appliance	Output A	0	0	0	0	0	0	0
24V Notification Appliance	Output A	0	0	0	0	0	0	0

24V BELL CIRCUIT WIRE RUN DATA	Units	Wire Gauge	Wire Run	Standby (hours)	Alarm (minutes)	Standby Budget (hours)	Alarm Budget (minutes)
PS24 Output A Wire Run (twin lead)	Feet	<Select Wire Gauge>	0.00	2880.00	0	0.00	24.00
PS24 Output B Wire Run (twin lead)	Feet	<Select Wire Gauge>	0.00	0	0	0.00	24.00

SECURITY ACCESS AND SURVEILLANCE
SECTION 13850

VISTA-128FBP
ARCHITECT AND ENGINEER SPECIFICATION
FOR
SECURITY SYSTEM

ADEMCO Group
165 Eileen Way
Syosset, New York 11791

1-800-645-7568

SECTION 13850
DETECTION AND ALARM

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes
 - 1. Control Panel
 - 2. Associated Equipment
- B. Products Installed But Not Supplied Under This Section
 - 1. Section 16140 - Wiring Devices
 - 2. Section 16530 - Emergency Lighting
- C. Related Sections
 - 1. Section 13700 - Security Access and Surveillance
 - 2. Section 13800 - Building Automation and Control

1.02 REFERENCES

- A. Underwriters Laboratories (UL):
 - 1. UL 268 – Smoke Detectors for Fire Protective Signaling Systems
 - 2. UL 365 – Police Station Connected Burglar Alarm Units and Systems
 - 3. UL 609 – Local Burglar Alarm Units and Systems
 - 4. UL 611 – Central Station Burglar-Alarm Units
 - 5. UL 636 – Holdup Alarm Units and Systems
 - 6. UL 684 – Local, Central Station, and Remote Station
 - 7. UL 864 – Control Units for Fire Protective Signaling Systems
 - 8. UL 985 – Household Fire Warning System Units
 - 9. UL 1023 – Household Burglar-Alarm System Units
 - 10. UL 1076 – Proprietary Burglar-Alarm Units and Systems
 - 11. UL 1610 – Central-Station Burglar-Alarm Units
- B. Federal Communications Commission (FCC):
 - 1. Code of Federal Regulations Title 47 - Part 15 – Radio Frequency Devices
 - 2. Code of Federal Regulations Title 47 - Part 68 – Connection of Terminal Equipment to the Telephone Network
- C. National Fire Protection Association (NFPA):
 - 1. NFPA70 – National Electrical Code.

2. NFPA 72 – National Fire Protection Code

1.03 SYSTEM DESCRIPTION

- A. The system shall be a Fire/Burglary/Access Control/CCTV Switching System that includes the following capabilities:
1. Listed for UL Commercial Fire and Burglary.
 2. Supports up to 128 zones.
 3. Supports up to eight (8) separate partitions.
 4. Supports up to 150 users.
 5. Supports commercial wireless devices.
 6. Provides integrated security, access control, and CCTV switching and commercial fire capability.
 7. Provides supervision of peripheral devices.
 8. Supports up to 96 optional relay outputs.
 9. Supports long-range radio (LRR) communication.
 10. Provides scheduling capability to allow for automated operations.
 11. Supports up to eight (8) alphanumeric paging devices.
 12. Supports panel linking.
 13. Supports alarm reporting via Internet.
 14. Interfaces with automation software.
 15. Monitors smoke detector maintenance signals.
 16. Capable of being installed using existing wiring.

1.04 SUBMITTALS

- A. Submittals shall include manufacturer data sheets for all major system components.

1.05 QUALITY ASSURANCE

- A. The alarm manufacturer shall be certified as being compliant with ISO9001.

PART 2 PRODUCTS

2.01 SYSTEM PERFORMANCE

- A. Control Panel - The control panel shall be an eight (8)-partition, UL commercial fire and burglary control panel that supports up to 128 zones using basic

hardwired, polling loop, and wireless zones. It shall also provide supervision of two (2) notification appliance output circuits (NAC), RF receivers, and relay modules. In addition, the control shall provide the ability to schedule time-driven events, and allow certain operations to be automated by pressing a single button. The system shall be capable of interfacing with an ECP long-range radio (LRR) unit that can send Contact ID messages, and alphanumeric paging devices. The control shall provide integrated access control and CCTV-switching capability with the use of a single downloader and database.

1. Basic Hardwired Zones - The control shall provide eight (8) style-B hardwire zones with the following characteristics:
 - a. EOLR supervision (optional for zones 3-8): Shall support N.O. or N.C. sensors (EOLR supervision required for UL installations).
 - b. Zones/Points shall be individually assignable to one of eight (8) partitions.
 - c. Support up to 32 two-wire smoke detectors on two selected zones (64 total).
 - d. Support four-wire smoke or heat detectors on any zone (power to four-wire smoke detectors must be supervised with an EOL device).
 - e. Support up to 50 two-wire latching glass break detectors on one selected zone.
 - f. Individually assignable to Notification Appliance (NAC) outputs and/or auxiliary relays.

2. Optional Expansion Zones
 - a. Polling Loop Expansion – The control shall support up to 120 additional hardwire zones using a built-in two-wire polling (multiplex) loop interface. The polling loop shall provide power and data to remote point modules, and constantly monitor the status of all zones on the loop. Maximum current draw shall not exceed 128 mA. The polling loop zones shall have the following characteristics:
 - (1) Interface with RPM (Remote Point Module) devices that provide Class B, Style Y (e.g., 4208U/4208SN) or a combination of Class B, Style Y, and Class A, Style Z (e.g., 4208SNF) zones.
 - (2) Individually assignable to one of eight (8) partitions.
 - (3) Individually assignable to NAC outputs or auxiliary relays.
 - (4) Supervised by the control panel.
 - (5) A 12,000 ft (3658 m) wire run capability without using shielded cable.

- (6) Each RPM (Remote Point Module) enclosure shall be tamper protected.
 - b. Wireless Expansion – The control shall support up to 128 wireless zones using a 5800 series RF receiver (fewer if using hardwire and/or polling loop zones). Wireless zones shall have the following characteristics:
 - (1) Supervised by control panel for check-in signals (except certain non-supervised transmitters).
 - (2) Tamper-protection for supervised zones.
 - (3) Individually assignable to one of the partitions.
 - (4) Individually assignable to bell outputs and or auxiliary relays.
 - (5) Support wireless devices listed for Commercial Burglary using the 5881ENHC RF Receiver.
3. Partitions – The control shall provide the ability to operate eight (8) separate areas, each functioning as if it had its own control. Partitioning features shall include:
- a. A Common Lobby partition (1-8), which can be programmed to perform the following functions:
 - (1) Arm automatically when the last partition that shares the common lobby is armed.
 - (2) Disarm when the first partition that shares the common lobby is disarmed.
 - b. A Master partition (9), used strictly to assign keypads for the purpose of viewing the status of all eight (8) partitions at the same time (master keypads).
 - c. Assignable by zone.
 - d. Assignable by keypad/annunciator.
 - e. Assignable by relay to one or all eight (8) partitions.
 - f. Ability to display fire and/or burglary and panic and/or trouble conditions at all other partitions' keypads (selectable option).
 - g. Certain system options selectable by partition, such as entry/exit delay and subscriber account number.
4. User Codes – The control shall accommodate 150 user codes, all of which can operate any or all partitions. Certain characteristics must be assignable to each user code, as follows:
- a. Authority level (Master, Manager, or several other Operator levels). Each User Code (other than the installer code) shall be

capable of being assigned the same or a different level of authority for each partition that it will operate.

- b. Opening/Closing central station reporting option.
 - c. Specific partitions that the code can operate.
 - d. Global arming capability (ability to arm all partitions the code has access to in one command).
 - e. Use of an RF (button) to arm and disarm the system (RF key must first be enrolled into the system).
5. Peripheral Devices – The control shall support up to 30 addressable ECP devices, which can be any combination of keypads, RF receivers, relay modules, annunciator modules, and interactive phone modules. Peripheral devices have the following characteristics:
- a. Each device set to an individual address according to the device's instructions.
 - b. Each device enabled in system programming.
 - c. Each device's address shall be supervisable (via a programming option).
6. Keypad/Annunciator – The control shall accommodate up to 16 keypads or six (6) touch-screen (i.e.; advanced user interface) keypads. The keypads shall be capable of the following:
- a. Performing all system arming functions.
 - b. Being assigned to any partition.
 - c. Providing four programmable single-button function keys, which can be used for:
 - (1) Panic Functions –activated by wired and wireless keypads; reported separately by partition.
 - (2) Keypad Macros –32 keypad macro commands per system (each macro is a series of keypad commands). Assignable to the A, B, C, and D keys by partition.
7. Optional Output Relays - A total of 96 relay outputs shall be accommodated using relay modules. Each relay module shall provide four (4) Form C (normally open and normally closed) relays for general-purpose use or two (2) Class-B, Style-Y supervised notification appliance circuit outputs, when using the 4204CF module. The relays shall be capable of being:
- a. Programmed to activate in response to system events.
 - b. Programmed to activate using time intervals.

- c. Activated manually using a relay command mode.
 - d. Assigned an alpha descriptor.
 - e. Used for Class B, Style-Y supervised bell outputs (4204CF module).
 - f. A combination of 4204 (ECP) and 4101SN (polling loop) relays.
8. Optional Vista Interactive Phone Module – The control shall support the ADEMCO 4285/4286 VIP Modules, which permit access to the security system in order to perform the following functions:
- a. Obtain system status information.
 - b. Arm and disarm the security system.
 - c. Control relays.
9. Optional LED Annunciator – The control shall support the ADEMCO FSA-8 and FSA-24 annunciators, which are capable of:
- a. Visually identifying a zone or point that is in alarm or trouble.
 - b. Programmable for system silence/reset.
 - c. Up to 96 LEDs may be used in one system.
 - d. A total of four (4) FSA-24 or 12 FSA-8 annunciators may be used in one system.
 - e. An optional keyswitch, FSAKSM module, shall be available for UL listed Silence and Reset capability.
10. Notification Appliance Circuits (NAC) – The Control Panel shall internally provide two supervised NAC outputs for operating fire and burglar alarm notification appliances. It shall also support additional supervised bell outputs when using 4204CF relay modules. Each NAC output shall be rated at 10-14 VDC, 1.7 amp max power limited. Total alarm current draw when using two NAC outputs shall not exceed 2.3 amps for battery independent operation.
11. Auxiliary Relay – A built-in Form C relay shall be provided. The relay contacts shall be rated at 28 VAC/VDC, 2.8 amps maximum. The relay shall support:
- a. Alarm activation.
 - b. Trouble/supervisory activation.
 - c. Reset of four-wire smoke detectors.
 - d. Battery saving feature.
12. Integrated Access Control – The control shall be capable of the following:

- a. Providing a command that activates relays to allow access doors to open (e.g., lobby door), lights to be turned on or off, etc.
 - b. Becoming a fully integrated access control system by using numerous VistaKey Single-Door Access Control Modules.
 - c. Supporting up to eight (8) VistaKey Access Control Modules. The VistaKey Access Control Modules shall use the same Compass Downloader as the Vista-128FBP and shall be programmable from the Compass Downloader or the Keypad/Annunciators.
 - d. Assigning any number of access control relays to each partition (up to 96 for the system).
 - e. Supporting up to 250 access card holders using VistaKey.
 - f. Connecting to the ADEMCO PassPoint Access Control System via the Vista Gateway Module (VGM).
13. CCTV Switching – The System shall be capable of supporting the VistaView 100 CCTV Switching System. The CCTV system shall be fully integrated and be event driven by Fire, Burglary or Access events. When cameras are not event driven, they shall be driven by an automatic preset dwell time. The system shall also be capable of:
- a. Activating the CCTV system via a Form-C relay output.
 - b. Operating up to 60 camera inputs and 30 video outputs.
14. Commercial Wireless Equipment – The Control shall be compatible with UL Listed Commercial Wireless Fire & Security equipment including:
- a. ADEMCO 5881ENHC Commercial Fire/Burg Receiver. - The receiver shall be capable of receiving as many points as the control panel is rated for. Up to two (2) receivers may be used on any system. Receivers may be remotely located anywhere on the system Keypad/Annunciator bus.
 - b. ADEMCO 5808LST Wireless Photoelectric Smoke and Heat Detector - The device shall be UL 268 listed and shall have Maintenance Alert capability and Automatic Drift Compensation.
 - c. ADEMCO 5809 Wireless 135D Fixed Temperature and Rate of Rise Heat Detector - The device shall be UL 521 listed for commercial applications.
 - d. ADEMCO 5817CB Wireless Universal Contact Monitoring Transmitter - This device shall be capable of making any conventional UL listed contact device a wireless device. The device shall be UL listed for commercial fire and burglary applications as follows: UL 864, 985 for fire and UL 365, 609, 1023, 1076 and 1610 for security and nurse call.

- e. ADEMCO 5869 Wireless Hold Up Switch/Transmitter - This device shall be UL 636 listed for commercial burglary applications.
15. Optional Keypad – The control shall support the ADEMCO 4146 Keypad on any one of the system's eight (8) partitions. If used, zone 7 is no longer available as a protection zone.
 16. Voltage Triggers – The system shall provide voltage triggers, which change state for different conditions. Used with long-range radio (LRR) equipment or other devices such as a remote keypad sounder, keypad ARMED and READY LEDs, or a printer to print the system's event log.
 17. Event Log – The System shall maintain a log of different event types (enabled in programming). The event log shall provide the following characteristics:
 - a. Stores up to 512 events.
 - b. Viewable at the keypad or through the use of Compass software.
 - c. Printable on a serial printer using a 4100SM Module including zone alpha descriptors.
 - d. Stores PassPoint access control events.
 - e. Sends printed events to up to eight (8) alphanumeric pagers.
 18. Scheduling - Provides the following scheduling capabilities:
 - a. Open/close schedules (for control of arming/disarming and reporting).
 - b. Holiday schedules (allows different time windows for open/close schedules).
 - c. Timed events (for activation of relays, auto-bypassing and un-bypassing, auto-arming and disarming, etc.).
 - d. Access schedules (for limiting system access to users by time)
 - e. End User Output Programming Mode (provides 20 timers for relay control).
 - f. The system shall automatically adjust for daylight savings time.
 19. Communication Features - Supports the following formats and features for the primary and secondary central station receivers:
 - a. Formats
 - (1) ADEMCO Low Speed (Standard or Expanded).
 - (2) Sescoa/Radionics.
 - (3) ADEMCO Express.

- (4) ADEMCO High Speed.
 - (5) ADEMCO Contact ID.
 - b. Backup reporting – The system shall support backup reporting via the following:
 - (1) Secondary phone number.
 - (2) ECP long-range radio (LRR) interface.
 - (3) Option to select long range radio (LRR) or dialup as the primary reporting method (dynamic signaling feature).
 - c. Internet reporting – The system shall be capable of communicating with the central station via the internet using Alarmnet-i. It shall provide the user with the ability to control the system via a browser interface (i.e., AOL, Netscape, Internet Explorer). All packet data transmitted to the monitoring station shall be encrypted with a minimum of 1024 bits of encryption.
- 20. Audio Alarm Verification Option - Provides a programmable Audio Alarm Verification (AAV) option that can be used in conjunction with an output relay to permit voice dialog between an operator at the central station and a person at the premises.
- 21. Cross-Zoning Capability - Helps prevent false alarms by preventing a zone from going into alarm unless its cross-zone is also faulted within five (5) minutes.
- 22. Pager Interface – The Control Panel shall be capable of sending event information to an alphanumeric pager via a VA-8201 pager interface device.
- 23. 24-Volt Power Supply – The Control Panel shall be compatible with a 24-Volt power supply module. The module shall supply two (2) 24 vdc, 3.4 amps, rectified, unfiltered outputs, which power:
 - a. Alarm notification appliances, including but not limited to sirens horns, bells and strobes.
 - b. Auxiliary devices capable of operating using full-wave rectified unfiltered voltage.
- 24. Exit Error False Alarm Prevention Feature – The System shall be capable of differentiating between an actual alarm and an alarm caused by leaving an entry/exit door open. If not subsequently disarmed, the control panel shall:
 - a. Bypass the faulted E/E zone(s) and/or interior zones and arm the system.

- b. Generate an Exit Error report by user and by zone so the central station knows it was an exit alarm and who caused it.
25. Enhanced Fire Walk-Test Mode – The Control Panel shall provide the installer with the following features:
- a. Automatic test of all integrated remote point module (RPM) devices, equipped with an automatic test feature.
 - b. While automatic test is in progress all fire zones that remain untested shall be displayed.
 - c. An event log shall be capable of logging the results of tested and untested zones.
 - d. The ability to report the result of tested and untested zones to the central station.
26. Built-in User's Manual and Descriptor Review - For end-user convenience, the control panel shall contain a built-in User's Manual. It shall include the following capabilities:
- a. By depressing any of the function keys on the keypad for five (5) seconds, a brief explanation of that function shall scroll across the alphanumeric display.
 - b. By depressing the READY key for five (5) seconds, all programmed zone descriptors shall be displayed (one at a time). This feature shall provide a check for installers and ensure all descriptors have been entered properly.
27. Programming - The Control shall be capable of being programmed locally or remotely using the ADEMCO Compass Downloader and shall be capable of:
- a. Uploading and downloading all programming information at 300 baud.
 - b. Uploading and displaying firmware revision levels from the control.
28. Panel Linking - The Control shall be capable of being networked together with up to eight other controls and being operated by any keypad within the system. It shall provide the ability for users to:
- a. Control multiple zones, partitions, and/or buildings from a central location.
 - b. Check status, arm and disarm any partition from any keypad in the system.
 - c. Globally arm or disarm partitions based upon user authority.
29. Automation Software - The Control shall be capable of interfacing with automation software via an RS232 input on a single partition.

The control panel shall be the ADEMCO VISTA-128FBP Commercial Fire/Burglary Partitioned Security System or equivalent.

2.02 ENCLOSURE

- A. The Control Panel shall be enclosed in a metal cabinet, suitable for wall mounting. The dimensions shall not exceed 18 inches (45.7 cm) in height, 14.5 inches (36.8 cm) in width or 4.3 inches (10.9 cm) in depth.

2.03 ELECTRICAL POWER REQUIREMENTS

- A. System Power – The Fire and Burglary Alarm System shall operate using standard 120 volts AC, 50/60 Hz power.
 - 1. Control Primary Power – Transformer power shall be 18 VAC, 72 VA.
 - 2. Backup Battery – A rechargeable 12 VDC, gel type, lead acid backup battery shall be provided. The battery shall be rated between 12 and 34-ampere hours (AH).
 - 3. Alarm Power – Alarm power shall be 12 VDC, 1.7 amps for each bell output
 - 4. Auxiliary Standby Power – Standby power shall be 12 VDC, 1 amp maximum.
 - 5. Total Power - Combined auxiliary standby and alarm currents shall be 2.3 amps.
 - 6. Fusing – The battery input, auxiliary, and bell outputs shall be protected using PTC circuit breakers. All outputs shall be power limited.
 - 7. Power Supply - A 24-volt power supply shall provide 24 vdc, 3.4 amps full-wave rectified, unfiltered outputs.

2.04. ENVIRONMENTAL CONDITIONS

- A. Environmental Conditions – The Fire and Burglary Alarm System shall be designed to meet the following environmental conditions.
 - 1. Storage Temperature – The system shall be designed for a storage temperature of -10° C to 70°C.
 - 2. Operating Temperature - The system shall be designed for an operating temperature of 0° C to 50°C (32° F to 120°F).

3. Humidity - The system shall be designed for normal operation in an 85% relative humidity environment.
4. Electromagnetic Interference – The system shall meet or exceed the requirements of FCC Part 15, Class B devices, FCC Part 68, IEC EMC directive.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Submission of a proposal confirms that the Contract Documents and site conditions are accepted without qualifications unless exceptions are specifically noted.
- B. The site shall be visited on a regular basis to appraise ongoing progress of other trades and contracts, make allowances for all ongoing work, and coordinate the requirements of this contract in a timely manner.

3.02 INSTALLATION

- A. The System shall be installed and tested in accordance with the Manufacturer's Installation instructions. The following conditions are applicable:
 1. In order to ensure a complete, functional System, for bidding purposes, where information is not available from the Owner upon request, the worst case condition shall be assumed.
 2. Interfaces shall be coordinated with the Owner's representative, where appropriate.
 3. All necessary backboxes, pullboxes, connectors, supports, conduit, cable, and wire shall be furnished and installed to provide a complete and reliable System installation. Exact location of all boxes, conduit, and wiring runs shall be presented to the Owner for approval in advance of any installation.
 4. All conduit, cable, and wire shall be installed parallel and square with building lines, including raised floor areas. Conduit fill shall not exceed forty percent (40%). All wires shall be gathered and tied up to create an orderly installation.

3.03 TESTING AND CERTIFICATION

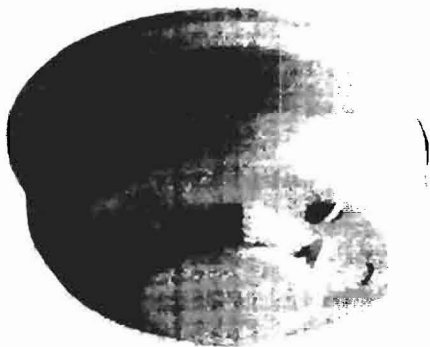
- A. The Contractor shall demonstrate the functionality of the System upon completion of installation, documenting the result of all tests and providing these results to the Owner. The System shall be tested in accordance with the following:

1. The Contractor shall conduct a complete inspection and test of all installed equipment. This includes testing and verifying connection to equipment of other Divisions.
2. The Contractor shall provide staff to test all devices and all operational features of the System for witness by the Owner's representative and the Authority having jurisdiction. The Contractor shall provide two-way radio communications to assist in the testing. All testing must be witnessed by the owner's representative, prior to acceptance.
3. The testing and certification shall take place as follows:
 - a. System shall be tested in conjunction with the manufacturer's representative.
 - b. All deficiencies noted in the above test shall be corrected.
 - c. Test results shall be submitted to the consultant or owner's representative.
 - d. System test witnessed by owner's representative and correction of any deficiencies noted.
 - e. The owner's representative shall accept the System.
 - f. System test shall be witnessed by the Authority having Jurisdiction, and any deficiencies that are noted shall be corrected.
4. A letter of certification shall be provided to indicate that the tests have been performed and all devices are operational.

END OF SECTION

5806W3

WIRELESS PHOTOELECTRIC SMOKE DETECTOR



Honeywell's 5806W3 is a 3V battery operated, photoelectric smoke detector with a built-in wireless transmitter. It facilitates fire verification for false alarm reduction requirements by ANSI/SIA CP-01 standards and is intended for use with any of Honeywell's 5800 Series wireless receiver/transceivers for residential installations. The 5881ENHC or 5883H receivers are required for commercial installations.

The transmitter can send alarm, tamper, maintenance (when control panels are equipped to process maintenance signals) and battery condition messages to the system's receiver. The maintenance signal fully complies with the sensitivity test requirement specified in NFPA 72, 7-2.2 and is UL approved.

The 5806W3 incorporates a state-of-the-art optical sensing chamber and advanced microprocessor. It also helps

eliminate nuisance alarms and virtually eliminates non-billable service calls and fines resulting from false alarms. The microprocessor allows the detector to automatically maintain proper operation at factory calibrated detection levels, even when sensitivity is altered due to the presence of contaminants settling into the unit's smoke chamber. A removable detector cover and chamber top allows the technician to quickly and easily clean the detector chamber without disassembling the detector head.

Since there are no holes to drill or wires to run, installers can preserve the beauty of the protected premise while protecting it. The 5806W3 is an ideal smoke detector for difficult to wire locations, applications where room aesthetics are critical or where hazardous materials exist.

FEATURES

• **Smoothing Algorithms**

Mathematical calculations in the detector's software that minimize nuisance alarms by smoothing out short term spikes from dust and smoke.

• **Smart Check**

A signal is sent to the control panel when the detector requires cleaning. This allows a regular, non-emergency service call to clean the detector before it goes into alarm.

• **Drift Compensation**

Virtually eliminates nuisance alarms from long-term dust build-up by automatically adjusting the detector's sensitivity.

• **Removable Detector Cover and Chamber Top**

Provides the technician the ability to quickly and easily clean the detector

chamber without disassembling the detector head.

• **Approved UL Listings for Residential and Commercial Applications**

Both residential and commercial installation requirements are met.

• **Additional LED Status Indicators**

Identifying between alarm or trouble conditions is easier with green and red LED status indicators. The green LED denotes a normal condition while the red LED indicates an abnormal condition.

• **Easy-to-install Mounting Base**

The sturdy mounting base allows the detector to be more easily installed on uneven surfaces (i.e. stucco). The mounting base has larger mounting ports to accommodate drywall anchors for easy surface mounting.

• **Improved Robust RF Field Strength**

The distance between the detector and receiver has been significantly increased.

Additional Features:

- Utilizes one long-life 3V lithium battery
- Microcontroller runs on an 4.0 MHz clock
- Horn operates at 3.3 KHz with sound pressure level of 85dBA at 10 feet
- Built-in wireless transmitter, temporal code 3 sounder

5806W3

WIRELESS PHOTOELECTRIC SMOKE DETECTOR

SPECIFICATIONS

- **Dimensions**
 - Diameter: 5.3", Height: 2.30"
- **Weight**
 - 8.5 oz. (without batteries)
- **Operating Temperature**
 - 32–100°F (0–37.8°C)
- **Humidity Range**
 - 0% to 95% RH, non-condensing
- **Air Velocity**
 - 1,000 ft./min. max.
- **Operating Voltage**
 - 2.5–3.6VDC
- **Standby Current**
 - 8.5 μ A avg.
- **Alarm Current**
 - 35 mA max.
- **Power Source**
 - One 3V CR123A lithium Battery†
- **Audible Output**
 - 85dB min. @ 10 ft.
- **Agency Listings**
 - UL268 – Commercial and Residential

* With adapter bracket (4.9" without mounting base)

† Replacement batteries include Duracell DL123A, Sanyo CR123A, Panasonic CR123A, or ADEMCO 466

ACCESSORIES (sold separately)

SENS-RDR Infrared Sensitivity Reader

Reduces testing time, simplifies sensitivity measurements and displays them precisely in terms of percent per foot obscuration. The SENS-RDR eliminates the need for magnets, voltmeters and ladders.



RT Removal Tool

Simplifies the attachment and removal of the detector head to the mounting base. It may be attached to a threaded extension pole or broom handle thereby eliminating the need for ladders.



ORDERING

5806W3 Wireless Photoelectric Smoke Detector with Built-In Wireless Transmitter

Accessories sold separately:

SENS-RDR Hand-held Sensitivity Reader

RT Removal Tool used for easy installation and removal of head from base

Honeywell Security & Communications

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Honeywell

5809

WIRELESS HEAT DETECTOR



Honeywell's 5809 wireless fixed heat and rate-of-rise temperature sensor offers expanded fire detection and installation flexibility. It is ideal for hard to wire locations and applications that require more than smoke detection. With no wires to run, the 5809 is fast and easy to install. The 5809 combines both rate-of-rise and fixed temperature sensors. Fires typically cause a rapid rise in temperature in the

surrounding area. The 5809's rate-of-rise thermostat senses the rise in temperature and signals an alarm if the increase is 15° or more per minute. A built-in fixed temperature sensor will also signal an alarm if the environmental temperature rises above 135°F. The 5809 is UL Listed (UL521) and CSFM approved for commercial and residential applications.

FEATURES

- Contains a built-in transmitter which can send alarm, supervisory and battery condition messages to the system's receiver/control unit
- Powered by a three-volt lithium battery. If the battery voltage gets too low, the 5809 sends a low battery signal to the control panel
- Features a tamper switch, which causes a trouble signal to be sent to the control if the unit is removed from the mounting base
- UL Listed for Commercial (when using 5881EH Receiver) or Residential applications

5809

WIRELESS HEAT DETECTOR

SPECIFICATIONS:

• **Power:**

- 3V lithium battery (Duracell DL123A, Panasonic CR123A, Sanyo CR123A, Varta CR123A)
- Operating temperature: 40° to 140°F (6° to 60°C)
- Rate-of-rise temperature: 15°F (8°C) increase per minute (NOTE: Rate-of-rise sensor does not operate above 38°C)

- Fixed temperature: 135°F (57°C)
- Maximum spacing: 50 ft x 50 ft UL, 30 ft x 30 ft FM (refer to National Fire Alarm Code Standard NFPA 72 for application requirements)
- Dimensions: 4.4" diameter/2/2" deep

• **Agency Listings:**

- UL 521 Listed for Commercial (when using 5881EH Receiver) or

Residential applications

• **Wireless Transmission Path Test:**

- A good RF transmission path must be established from the proposed mounting location before permanently installing the detector. To determine that there is a good signal reception from the proposed location, perform the test procedure described in the installation instructions procedure.

MOUNTING THE DETECTOR:

- You can mount the 5809 on a wall or ceiling within the protection area:
- Wall mounting: Mount the detector 4" 6" from the ceiling
- Ceiling mounting: Mount the detector at least 4" from any wall. Make sure the normal ceiling temperature will not exceed 100°F (37.8° C).

- Refer to NFPA Standard 72 for detector spacing and other requirements. Maximum spacing for UL installations is 50' x 50'
- Avoid mounting the detector near heat generating devices (e.g. ovens, heat vents, furnaces, boilers)
- IMPORTANT: Heat detectors should

be used for property protection. Reliance should not be placed solely on heat detectors for life safety. When life safety is involved, smoke detectors MUST also be used. Detectors must not be painted.

TESTING THE DETECTOR:

The test procedure should be performed to determine a good RF transmission path and again after installation is completed.

CAUTION: The fixed temperature sensor is intended for one-time use. Prolonged heat during testing can damage the unit. If used carefully following the instructions described below, the heat from a portable hair dryer can be used to test the unit. If the round disk on top of the detector detaches, the detector must be replaced.

- Activate the control panel's test mode

- Use either method (a) or (b) or activate the detector

- (a) Press and release the activation button on the PC board assembly OR
- (b) Holding a portable hair dryer about 12 to 18 inches away from the detector, turn the dryer on and aim the warm air at the side of the detector.

CAUTION: Aiming the dryer directly at the round disk on the detector can damage the unit to be replaced.

- The system's keypad should beep and the detector's ID should be displayed

- Exit the control's test mode
- FCC ID: CFS 8DL 5809

This device complies with part 15 of FCC rules.

Operation is subject to the following conditions:

- (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

ORDERING

5809

Heat Detector

Honeywell Security & Custom Electronics

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Melville, NY 11747
www.honeywell.com

L/5809/D
October 2007
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5881ENHC

COMMERCIAL WIRELESS RECEIVER

The new 5881ENHC RF Receiver is designed for use with control panels that are approved for use in commercial fire and/or burglary installations. The receiver recognizes alarm, status and keypad control messages from wireless

transmitters operating at 345 MHz. The receiver also features a Spatial Diversity System that virtually eliminates "nulls" and "dead spots" within the coverage area.

FEATURES

- Front and back tamper for commercial fire/burg installations
- One or two receivers can be used to provide redundant coverage or extend coverage in large areas
- Spatial Diversity System virtually eliminates "nulls" and "dead spots" within the coverage area
- Can be mounted remotely, anywhere on the keypad bus, for extended coverage
- Compatible with all 5800 series wireless devices
- Connects to control panel via the keypad bus
- UL listed for Commercial Fire/Burg applications

COMPATIBLE CONTROLS

- VISTA-32FB
- VISTA-128BP
- VISTA-128FBP
- VISTA-250BP
- VISTA-250FBP
- FA1600 series
- FA1700 series

SPECIFICATIONS

Dimensions

- 7-3/8" W x 4-3/8" (10-7/8" with antennas) H x 1-7/16" D
188mm W x 112mm H
(277mm with antennas) x 37mm D

Input Voltage

- 12VDC (from control's keypad terminals)

Current

- 60mA (typical)

Operating Temperature

- 32° F to 122° F
(0° C to 50° C)

ORDERING

5881ENHC

Commercial Wireless Receiver

Interface Wiring

- RED: 12VDC input (+) Aux. power
- GREEN: Data out to control
- YELLOW: Data in from control
- BLACK: Ground (-)

Range

- 200 ft (60m) nominal indoors from wireless transmitters (the actual range to be determined with the security system in the Test mode)

Installation

- See product installation instructions for details on programming and mounting

UL Listings

- Commercial Fire UL 864
- Household Fire UL 985
- Household Burg UL 1023
- Commercial Burg UL 365, UL 609, UL 1076, UL 1610
- FM
- MEA
- CSFM

Automation and Control Solutions

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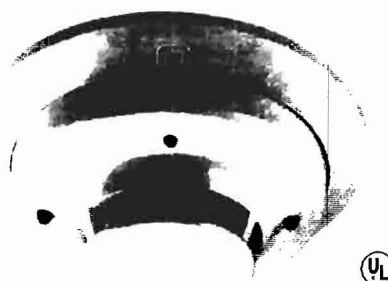
www.honeywell.com

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Honeywell

5193SD/5193SDT

V-PLEX® ADDRESSABLE SMOKE DETECTOR



Honeywell's 5193SD/SDT Addressable Photoelectric Smoke Detector is designed to provide open area protection and to be used with compatible UL-listed Honeywell control panels that support V-Plex technology. The detector incorporates a state-of-the-art optical sensing chamber and an advanced microprocessor. Built-in Drift Compensation algorithms automatically maintain proper operation at factory calibrated detection levels, even when sensitivity is altered due to the presence of contaminants settling into the unit's chamber. The 5193SDT also features a restorable, built-in, fixed temperature (135° F/57.2° C) thermal detector.

FEATURES

- **Easy Installation:** Installation of the 5193SD/SDT detector is simplified by the use of a mounting base that may be pre-wired to the system, allowing the detector to be easily installed or removed for maintenance or service. (See Figure 1).
- **LED Status Indicators:** Two LEDs (green and red) provide local visual indication of the detector's status – including normal operation, alarm, out of sensitivity and trouble conditions.
- **Test button:** This button allows the user to perform periodic testing of the detector's circuitry and verify that the detector is within the sensitivity limits.
- **Versatile Mounting:** Mounting is made simple with the included hardware and the large mounting ports, which accommodate drywall anchors for easy surface mounting. (See Figure 1).
- **Tamper Protection and Tamper Resistance:** The detector contains a built-in tamper switch that can communicate back to the control panel in the event the detector is removed from its base. For an added level of security, the detector also includes a tamper resistant element that prevents removal from the base without the use of tools. (See Figure 1).

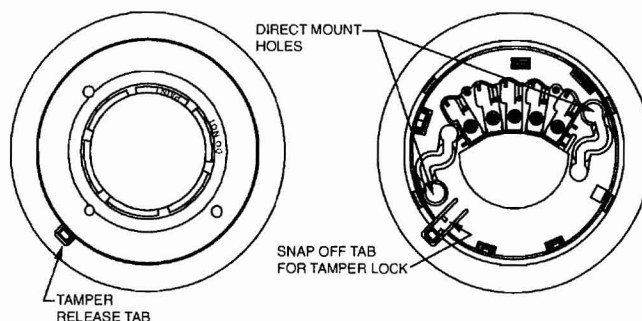


Figure 1: Tamper-Resistant Feature/Wiring

5193SD/5193SDT

V-PLEX® ADDRESSABLE SMOKE DETECTOR

SPECIFICATIONS

- **Heat Sensor:** (Model 5193SDT):
135° F (57.2° C);
Fixed Temperature Electronic Thermistors
- **Operating Ambient Temperature Range:**
32° to 100° F (0° to 38° C)
- **Operating Humidity Range:**
0 to 95% RH non-condensing
- **Storage Temperature Range:**
-4° to 158° F (-20° to 70°C)
- **Diameter (including base):** 5.3 inches
- **Height (including base):** 2.0 inches
- **Weight:** 6.3 oz.
- **Agency Listing:** UL-268
- **System Voltage Range:** 7-14V
- **Standby Current** (maximum @ 12V)
LED off: 1.2mA
LED on: 2.8mA

ACCESSORY (sold separately)

To measure the detector's sensitivity, the **SENS-RDR Infrared Sensitivity Reader tool** (sold separately) should be used. It reduces testing time, simplifies sensitivity measurements and displays them precisely in terms of percent per foot obscuration. The SENS-RDR eliminates the need for magnets, voltmeters and ladders.

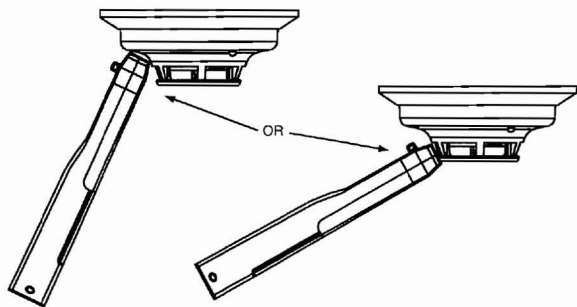


Figure 2: Position of Reader



ORDERING

- | | |
|----------------|--|
| 5193SD | Addressable Photoelectric Smoke Detector |
| 5193SDT | Addressable Photoelectric Smoke Detector with Integral Heat Sensor |

Accessory sold separately:

- | | |
|-----------------|-----------------------------|
| SENS-RDR | Handheld Sensitivity Reader |
|-----------------|-----------------------------|

Automation and Control Solutions
Honeywell Security & Communications
2 Corporate Center Dr. Suite 100
P.O. Box 9040
Melville, NY 11747
www.honeywell.com

L/5193SDT/D
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Honeywell

Regulatory Agency Statements

UL Installation Requirements

The following requirements apply to both UL residential and UL commercial burglary installations:

1. All partitions must be owned and managed by the same person(s).
2. All partitions must be part of one building at one street address.
3. The audible alarm device(s) must be placed where it/they can be heard by all partitions.
4. The control cabinet must be protected from unauthorized access. This can be done by installing a tamper switch on the cabinet door (supplied with VISTA-128FBP/VISTA-250FBP) or by installing a UL Listed passive infrared detector positioned to detect cabinet access. Wire the selected device to any EOLR-supervised zone (Zone 1-8). Program this zone for day trouble/night alarm (type 05) or 24-hour audible alarm (type 07) response. The 24-hour alarm response must be used for multiple partitioned systems.
5. Remote downloading and auto-disarming are not UL Listed features.

UL864/NFPA Local Fire

Configure at least one Notification Appliance Circuit for supervision and wire polarized fire alarm indicators to it. Program this circuit for temporal sounding.

UL864/NFPA Central Station and Remote Station Fire

1. Size the backup battery for 24-hour standby (central station) or 60-hour standby (remote station) time.
2. For central station service, you may use the 7720ULF or 7920SE LORRAs alone, the main dialer with a LORRA, or the main dialer with the 5140DLM Backup Dialer Module. For remote station service, you must use the main dialer with the 5140DLM Backup Dialer Module.
3. When using the LORRA, connect its channel inputs to the VISTA-128FBP/VISTA-250FBP's fire alarm, fire supervisory (if used), and trouble triggers. Also connect its XMIT OKAY output to Input 1 on the VISTA-128FBP/VISTA-250FBP's J2 header. Program J2 Input 1 system Zone 973 for 24-hour trouble response (type 19) to send radio faults.
4. When the main dialer is used, enable it (field 3*30) and connect it to a telephone line. Assign a 24-hour trouble response (type 19) to system Zone 974 to enable main dialer supervision. The VISTA-128FBP/VISTA-250FBP will activate the trouble trigger when it detects a main dialer supervision fault.
5. When the backup dialer is used, install it on the VISTA-128FBP/VISTA-250FBP's PCB shield. Enable it (field 3*30) and connect it to a separate telephone line. Assign a 24-hour trouble response (type 19) to system Zone 975 to enable backup dialer supervision.
6. When the dialer is used, program it to send fire alarm, fire supervisory (if used), trouble, AC loss, low battery, normal dialer test, and off-normal dialer test reports. Field *27 must be set to "024" maximum so that test reports are sent at least once every 24 hours.
7. If a secondary number is programmed, set the maximum number of dialer re-tries to 3, 4, or 5 in field 3*21.

UL609 Grade A Local Mercantile Premises/Local Mercantile Safe & Vault

1. Use the VISTA-128FBP/VISTA-250FBP.
2. All zones must be configured for EOLR supervision (*41=0). Wireless sensors may not be used. If 4190WH RPMs are used, set field *24 to "0" to enable tamper detection.
3. Attach a door tamper switch (supplied) to the VISTA-128FBP/VISTA-250FBP cabinet backbox. For safe and vault installations, a shock sensor (not supplied) must also be attached to the backbox. (Also see *Mounting the Cabinet* in *SECTION 3: Installing the Control*)

4. Wire an ADEMCO AB12 Grade A Bell/Box to the Notification Appliance Circuit. Bell wires must be run in conduit. Program the Notification Appliance Circuit for 16 minutes or longer timeout and for confirmation of arming ding. (Also see *SECTION 3: Installing the Control*)
5. Wire the VISTA-128FBP/VISTA-250FBP tamper switch and AB12 Bell/Box tamper switches to any EOLR supervised zone (zones 1-8). Program this zone for day trouble/night alarm (type 05) or 24-hour audible alarm (type 07) response. The 24-hour alarm response must be used for multiple partitioned systems.
6. Entry delays must not exceed 45 seconds, and exit delays must not exceed 60 seconds.

UL365 Police Station Connected Burglar Alarm

Follow the instructions for UL609 local installations given above.

For Grade A Service:

- You may use the VISTA-128FBP/VISTA-250FBP dialer alone, or the 7720 Long Range Radio alone.
- When using the dialer, program it to send Burglary Alarm, Low Battery and Communicator Test reports. Field *27 must be set to "024" (or less) so that test reports are sent at least once every 24 hours.
- If using the 7720, connect it to the VISTA-128FBP/VISTA-250FBP burglary/audible panic alarm trigger.

For Grade AA Service:

- You must use a 7920SE Long Range Radio.
- Connect the 7920SE to the VISTA-128FBP/VISTA-250FBP burglary/audible panic alarm trigger.

UL611/UL1610 Central Station Burglary Alarm

Follow the instructions for UL609 local installations given above.

For Grade A Service:

- You must use the VISTA-128FBP/VISTA-250FBP's dialer with a 7720 Long Range Radio.
- Connect the control's burglary/audible panic alarm trigger (on J2 header) to the 7720. Program a 24-hour trouble response for Zone 974 to enable main dialer supervision. The VISTA-128FBP/VISTA-250FBP will activate the burglary/audible panic trigger when a corresponding alarm is detected, and will activate the trouble trigger when a main dialer fault is detected.
- Also connect the 7720's radio fault output to one of the VISTA-128FBP/VISTA-250FBP's EOLR-supervised zones (i.e., 1-8). Program this zone for a trouble by day/alarm by night (type 05) or a 24-hour alarm (type 07, 08) response to radio faults.
- Program the control's dialer to send Burglary Alarm, Trouble, Opening/Closing, and Low Battery reports.

For Grade AA Service:

Follow the instructions for Grade A service, except use the 7920SE in place of the 7720.

California State Fire Marshal (CSFM) Requirements.

24-hour backup: The California State Fire Marshal has published new regulations which require that all residential fire alarm control panels installed after June 30, 1993 must be provided with a backup battery which has sufficient capacity to operate the panel and its attached peripheral devices for 24 hours in the intended standby condition, followed by at least 4 minutes in the intended fire alarm signaling condition. Be sure to size the battery to meet this requirement.

FEDERAL COMMUNICATIONS COMMISSION (FCC) PART 15 STATEMENT

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

IN THE EVENT OF TELEPHONE OPERATIONAL PROBLEMS

In the event of telephone operational problems, disconnect the control panel by removing the plug from the RJ31X (CA38A in Canada) wall jack. We recommend that you demonstrate disconnecting the phones on installation of the system. Do not disconnect the phone connection inside the control panel. Doing so will result in the loss of your phone lines. If the regular phone works correctly after the control panel has been disconnected from the phone lines, the control panel has a problem and should be returned for repair. If upon disconnection of the control panel, there is still a problem on the line, notify the telephone company that it has a problem and request prompt repair service. The user may not under any circumstances (in or out of warranty) attempt any service or repairs to the system. It must be returned to the factory or an authorized service agency for all repairs.

FCC PART 68 NOTICE

This equipment complies with Part 68 of the FCC rules. On the front cover of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This equipment uses the following jacks:

An RJ31X is used to connect this equipment to the telephone network.

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact the manufacturer for repair and warranty information. If the trouble is causing harm to the telephone network, the telephone company may request that you remove the equipment from the network until the problem is resolved.

There are no user serviceable components in this product, and all necessary repairs must be made by the manufacturer. Other repair methods may invalidate the FCC registration on this product.

This equipment cannot be used on telephone company-provided coin service. Connection to Party Line Service is subject to state tariffs.

This equipment is hearing-aid compatible.

When programming or making test calls to an emergency number, briefly explain to the dispatcher the reason for the call. Perform such activities in the off-peak hours, such as early morning or late evening.

CANADIAN EMISSIONS STATEMENTS

This Class B digital apparatus complies with Canadian ICES-003

NOTICE

The Industry Canada Label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may cause the telecommunications company to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact an appropriate electric inspection authority, or electrician, as appropriate.

NOTICE: The **Ringer Equivalence Number (REN)** assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

AVIS

L'étiquette d'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur. Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, de lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

Avertissement : L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

AVIS : L'**indice d'équivalence de la sonnerie (IES)** assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface. La terminaison d'une interface téléphonique peut consister en une combinaison de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5.



NOT to be distributed outside of FMGlobal except by CUSTOMER.

APPROVAL REPORT

VISTA-128FBP and VISTA-250FBP Fire Alarm Controls for Local Protective Signaling, Remote Signaling, and Central Station Signaling

Prepared for:

**Alarm Device Manufacturing Company
165 Eileen Way
Syosset, NY 11791**

**Project ID. 3015009
Class 3010
Date: January 10, 2003**

FM Approvals
1151 Boston-Providence Turnpike
P.O. Box 9102
Norwood, MA 02062

An  Enterprise

**VISTA-128FBP and VISTA-250FBP Fire Alarm Controls for
Local Protective Signaling, Remote Signaling,
and Central Station Signaling**

January 10, 2003

From

**Alarm Device Manufacturing Company
165 Eileen Way
Syosset, NY 11791**

I INTRODUCTION

- 1.1 Alarm Device Manufacturing Company requested an Approval examination of the VISTA-128FBP and the VISTA-250FBP Fire Alarm Controls for Local, Remote and Central Station Signaling. The controls are similar to the previously Approved VISTA-100 (J.I. 0B7A0 .AY) and VISTA-128 FB (Project I.D. 3003952) models.
- 1.2 The modules tested with these controls are:
- 6160 Remote keypad for local control and annunciation.
- 5140 DLM Backup Dialer
- 1.3 The following devices have already been examined with earlier systems, under previous editions of ANSI/NFPA 72 but have been tested under this examination to the 1999 edition of ANSI/NFPA 72:
- | | | |
|-----------|----------------------|---|
| -5140 DLM | Backup Dialer | Previous examination: Project I.D.3003952 |
| -7845C | Cellular transceiver | Previous examination: Project I.D.3009306 |
- 1.4 The following devices were used to conduct some of the testing associated with this examination and are included in the Approval listing:
- | | |
|---|----------------------|
| - ADEMCO 685 Digital Alarm Communication Receiver | Project I.D. 3015170 |
| Firmware revision 5.1 | |
| - ADEMCO MX 8000 Digital Alarm Communication Receiver | Project I.D. 3014904 |
- 1.5 This Report may be freely reproduced only in its entirety and without modification.
- 1.6 The standard used to evaluate and examine the equipment included in this report is the National Fire Protection Association, National Fire Alarm Code, (ANSI/NFPA 72, 1999 edition). Previous testing, specifically relating to power supply supervision, was done to the 1993 edition. See Remarks, paragraph 5.3.
- 1.7 **Listings:** See Appendix I

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PROJECT I.D. 3015009

II DESCRIPTION

- 2.1 The following paragraphs and the attached Alarm Device Manufacturing Company literature describe the VISTA-128 FBP and VISTA-250FBP which are similar to the previously Approved VISTA-128FB. Differences are in the firmware, which required confirmation of normal operating characteristics. The manufacturer has made available all necessary component information and specification sheets have been examined and are on file at FM Approvals.
- 2.2 The subassemblies of the VISTA-100 are unchanged in their construction and application when used in the VISTA-128FBP and the VISTA-250FBP. Previous testing done under J.I. 0B7A0.AY is considered sufficient to maintain Approval.
- 2.3 The subassemblies of the VISTA-128FB are unchanged in their construction and application when used in the VISTA-128FBP and the VISTA-250FBP. Previous testing done under Project I.D. 3003952 is considered sufficient to maintain Approval.
- 2.4 The VISTA-128FBP and VISTA-250FBP (P for “plus”) have three features, in addition to an expanded number of zones, from 128 to 242, for the VISTA-250FBP the VISTA 128 FB did not have.
 - 2.4.1 The Alpha Pager Module and Panel Linking Module accessories provide two features intended for home automation use and will not be examined.
 - 2.4.2 The third feature is fire with verification. An initial alarm will cause a seven second power reset. A subsequent alarm within 90 seconds will result in a fire alarm. A zone configured in this manner is always active and cannot be bypassed.
- 2.5 The 1451 Power supply does not fulfill all battery supervision functions required under ANSI/NFPA 72 1999. The requirements of the 1993 version of ANSI/NFPA 72 will apply.
- 2.6 Central station signaling applications require 24 hour battery capacity for the 24 Vdc secondary supply. Remote station signaling applications require 60 hr battery capacity for the 24V dc secondary.
- 2.7 The 6160 keypad provides the operator interface to the fire alarm control. A minimum of one is required to provide the necessary audible and visual alarm and trouble indications. Keypad port one is electrically isolated from keypad port two. For multi-keypad device installations the primary indicator must be within three feet of the control cabinet and be connected to a dedicated keypad port, either one or two. No other keypad devices may be connected to the primary indicator’s keypad port.

III EXAMINATIONS AND TESTS

- 3.1 A sample of the VISTA250 FBP, powered by the 1451 power supply, using the 6160 keypad as an operator interface was submitted for examination and testing. The sample was considered to be representative of the product line and was examined, tested, and compared to the manufacturer's drawings. All data is on file at FM Approvals along with other documents and correspondence applicable to this program.
- 3.2 **Normal Operation Testing** - Each of the controls was evaluated and proper operation under normal ambient conditions verified.

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- 3.3 **Alarm Signals** –An alarm condition is indicated by an LED on the keypad and a zone description on the LCD on the keypad. Notification appliances and the panel’s audible sounder can be silenced with the push button on the keypad while maintaining the visible alarm indications. Entering an access code on the keypad enables the alarm silence push button. A silenced alarm will resound upon receipt of a new alarm condition on a different circuit or addressable device on the same circuit.
- 3.4 **Supervisory Signals** – An LED and LCD display on the keypad indicate a supervisory condition. The supervisory/trouble signal audible tone can be silenced by the acknowledge button on the keypad while maintaining the visible supervisory indication until the source of the supervisory condition is removed. Entering an access code on the keyboard enables the “acknowledge” push-button.
- 3.5 **Trouble Signals** –An LED and LCD display on the keypad control indicate a trouble condition. The distinctive trouble audible tone can be silenced by the acknowledge button on the front panel. Entering an access code on the keyboard enables the “acknowledge” push-button. An acknowledged, unresolved, trouble resounds after a programmable delay of between one and twenty-four hours.
- 3.6 **Power Supply Supervision** – Proper operation of the ac power failure and battery failure was verified.
- 3.6.1 Transfer to secondary power was accomplished automatically in less than 30 seconds upon loss of primary power to the system. A trouble was annunciated on ac power failure audibly with a “fast” (~5 Hz) beep, and visibly on the LCD and LED. Transfer to secondary occurred at 102 Vac. The equipment operated properly before and after transfer to battery power.
- 3.6.2 The standby battery is monitored for presence of voltage at the point of connection. Once the battery was disconnected, a battery trouble condition was annunciated within 200 seconds as required.
- 3.6.3 The charging circuit for the batteries is not supervised for proper operation. This is acceptable under NFPA 72 1993 edition requirements.
- 3.7 **Signaling Line Circuits – Initiating Device Circuits –Notification Appliance Circuits** – No testing required as the circuits remain the same as previously examined (see 2.2 and 2.3).
- 3.8 **Voltage Variations** - Normal system operation was verified over a voltage range of between the transfer voltage and 110% of the primary voltage, 102 V ac - 132 V ac and 85% to 110% of the battery voltage 10.2 V dc – 13.2 dc, supplies at minimum (standby) and maximum (alarm) loads. Normal function over all voltage ranges was confirmed.
- 3.9 **Environmental conditioning** - Tests were conducted that verified proper operation of input and output devices in standby, alarm, and trouble modes after exposure to a minimum of four hours at an ambient temperature of 32°F (0°C), four hours at an ambient of 120°F (49°C), and twenty-four hours at an ambient of 100°F (38°C) and a relative humidity of 90%. The equipment performed properly at each setting when tested for normal operation by initiating alarm and trouble conditions.
- 3.10 **DACT Protective Signaling Test** -Tests were conducted to verify proper operation of the main dialer and the 5140 DLM Backup Dialer. Proper operation of the dialers was confirmed by the receiver displaying all required alarm and trouble conditions indicated on the alarm control.

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- 3.10.1 Primary power failure signal was tested at both six and twelve hour settings. This was considered acceptable as 25% and 50% of the 24 hours required for central station signaling.
- 3.10.2 Both dialers obtained a dial tone, contacted the DACT and transmitted a signal within 90 seconds of an alarm signal at an initiating device, as required.
- 3.10.3 The main dialer and the 5140 DLM Backup dialer connect to two separate telephone lines. The primary line and main dialer is used first. A test signal is sent on the primary line once a day. This was considered acceptable.
- 3.10.4 The main dialer and the 7845C DLM Backup dialer connect to two separate telephone lines. The primary line and main dialer is used first. A test signal is sent on the primary line once a day. This was considered acceptable.
- 3.10.5 Failure of communication means sends a trouble signal on the other connection in less than one minute. This is less than the four minutes required. Failure of both communication means results in a local trouble indication. This was considered acceptable.
- 3.11 **Special System Feature-**
- 3.11.1 **Fire with Verification-** An initiating device zone configured for fire with verification signaled an alarm condition in under 10 seconds as compared to a "normal" zone which signaled an alarm in approximately 1 second. This was considered acceptable.
- 3.12 **Protective Grounding -** Accessible conductive parts such as the outside of the enclosure are all connected to a properly identified positive ground terminal by means of a 0.5 ohm or less resistive path.
- 3.13 **Electrical Shock Examination-** Access to the primary power supply inputs was suitably restricted by a tool secured enclosure.
- 3.14 **Vibration, Battery Discharge/charge Test , Initiating device compatibility, Equipment Load Rating, Battery Circuit Reverse Polarization, Transformer Failure, Transients, RFI Susceptibility-** Examination of the construction and documentation of the VISTA 128FBP and VISTA-250 FBP in addition to the normal operations testing demonstrated the controls can be considered modifications of the previously examined VISTA 100 and VISTA128FB, eliminating the need to perform these tests on unmodified equipment.

IV MARKING

The following information appears on the apparatus identified in Section 1.2:

- Manufacturer's name and manufacturing location.
- Type number and date code
- Control Drawing Reference(schematic number printed on PCB)
- The FM Approvals mark

V REMARKS

- 5.1 Installations shall comply with the manufacturer's instruction manual.

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- 5.2 An Approval examination including programmable, modular equipment such as this can only evaluate typical configurations. Although all components have been tested, it is beyond the scope of such an examination to test all possible configurations. It is necessary; therefore, that those responsible for the design and acceptance of specific installations take special care to verify that their system is configured to operate properly for the required performance of that installation.
- 5.3 The 1451 Power supply does not fulfill all battery supervision functions required under ANSI/NFPA 72 1999. Therefore the ANSI/NFPA 72 1993 requirements will apply.
- 5.4 The low battery alarm sent by the DLD after either 6 or 12 hours can be considered as transmitting when the battery level for central station service has been reduced by 25 to 50 %, considering 24 hours to represent 100%. This is acceptable even if the battery is intended for longer operation as for a remote station, requiring a 60-hour battery life, as this will still meet the intent of NFPA 72 of signaling a low battery condition prior to battery voltage loss.

VI FACILITIES AND PROCEDURES AUDIT

The manufacturing sites in Syosset, NY and Juarez, Mexico are subject to follow-up audit inspections. The facilities and quality control procedures in place have been found to be satisfactory to manufacture product identical to that examined and tested as described in this report.

VII MANUFACTURER'S RESPONSIBILITIES

- 7.1 As part of the listing requirements, FM Approvals requires assurance that subsequent systems produced will present the same quality and reliability as the system examined. The manufacturer shall maintain a Quality Assurance Program, which includes as a minimum: incoming, in-process, and final inspection and testing; equipment calibration; and drawing change control. The specific procedures used to control quality are best determined by the manufacturer.
- 7.2 The manufacturer shall provide installation, operating, and maintenance manual(s) with each system.
- 7.3 On 100% of production, the VISTA 128 FBP and VISTA 250 FBP shall be tested by Alarm Device Manufacturing Company (ADEMCO) for continuity of the protective grounding system.
- 7.4 The VISTA 128 FBP and VISTA 250 FBP shall be dielectric tested on 100% of production by the Alarm Device Manufacturing Company. The insulation between accessible conductive parts and the power supply input connections shall withstand for one minute, with no insulation breakdown, the application of 1000 Vac (1400 V dc) with respect to the protective ground. Alternatively, a test potential of 1200 Vac (1700 V dc) may be applied for at least one second. **WARNING:** The dielectric test required may present a hazard of injury to personnel and/or property and should only be performed under controlled conditions, and by persons knowledgeable of the potential hazards of such testing to minimize the likelihood of shock and/or fire.

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VIII DOCUMENTATION

The following drawings describe the equipment and are filed under Project I.D. 3015009.

Drawing No	Revision	Drawing Title
K0376	8/02	Installation and Set up Guide
SAFA1700C	A	Bill of Matl., Assy, PCB, First Alert 1700C
SAVIS100-23	A	Schematic., Sub Assy, PCB, VISTA128/250FBP
SAVIS100-23	A	Layout., Sub Assy, PCB, VISTA128/250FBP
SAVIS100-23	A	Bill of Matl., Sub Assy, PCB, VISTA128/250FBP
SAVIS128FBP	A	Bill of Matl., Assy, PCB, VISTA128FBP
SAVIS250FBP	A	Bill of Matl., Assy, PCB, VISTA250FBP

IX CONCLUSION

The equipment described in 1.6 meets FM Approvals requirements. Approval is effective when the Approval Agreement is signed and received by FM Approvals.

EXAMINATION AND TESTING BY: W. Kessler

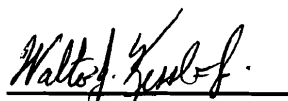
PROJECT DATA RECORD: 3015009

APPENDIX I: *Approval Guide*, a publication of FM Approvals, Listings

APPENDIX II: VISTA-128FBP/VISTA-250 FBP Installation and Setup Guide K0376 8/02
Section 1

REPORT BY:

REPORT REVIEWED BY:


Walter J. Kessler, Jr.

Engineer
Systems


P. K. Schoenheiter

Senior Engineer
Systems

APPENDIX I

Listings

Local Protective Signaling

Ademco ~~VISTA-128FB, VISTA-32FB~~ programmable control panel (firmware Versions ~~WAVIS128-12-1FB, Rev. 2.1, for VISTA-128FB and WAVIS32-11FB, Rev. 1, for VISTA-32FB~~). A minimum of one 6139R keypad is required. Provides eight Class B (Style B) initiating device circuits, two 12 V dc Class B (Style Y) notification appliance circuits. Polling loop circuit for zone expansion uses following devices: 4297 polling loop extender, 4101SN, 4190SN, 4190WH, 4208U, 4209U zone expanders, 4208SNF zone expander/converter, 4192SD photoelectric type, 4192SDT photoelectric type with 135°F (37°C) heat, and 4192CP ionization type addressable smoke detectors. 4204 relay module; 4204CF relay module provides two Class B (Style Y) notification appliance circuits. Compatible with the following Approved System Sensor two-wire detectors: Models 1151 with B110LP base, 1400, 1451 with B401B base, 1451DH with DH400 base ionization smoke; 2151 with B110LP base, 2400, 2451 with B401B base photoelectric smoke; 2400TH, 2451TH with B401B base photoelectric smoke with heat. The VISTA-128FB, -32FB are compatible with the 5808 LST Photoelectric Smoke/Heat Detector/Transmitter using the 5881ENHC receiver connected using the keypad port. ~~Optional PS24 power supply module (used only with VISTA-128FB) provides one 24 V dc Class B (Style Y) notification appliance circuit.~~ Primary power 120 V ac, 12 V dc batteries used with 12 to 34.4 AH capacity to provide 24 or 60 hours of emergency operation. (See also REMOTE STATION SIGNALING SYSTEMS and CENTRAL STATION SIGNALING SYSTEMS.)

~~Ademco VISTA-128FB, VISTA-32FB~~ programmable control panel (firmware Versions ~~WAVIS128-12-1FB, Rev. 2.1, for VISTA-128FB and WAVIS32-11FB, Rev. 1, for VISTA-32FB~~). **Ademco VISTA-128FBP, VISTA-250FBP programmable control panel (firmware Versions WAVIS128FBP Rev. 10 for VISTA-128FBP and WAVIS250FBP, Rev. 10, for VISTA-250FBP).** A minimum of one 6139R **or 6160** keypad is required. Provides eight Class B (Style B) initiating device circuits, two 12 V dc Class B (Style Y) notification appliance circuits. Polling loop circuit for zone expansion uses following devices: 4297 polling loop extender, 4101SN, 4190SN, 4190WH, 4208U, 4209U zone expanders, 4208SNF zone expander/converter, 4192SD photoelectric type, 4192SDT photoelectric type with 135°F (37°C) heat, and 4192CP ionization type addressable smoke detectors. 4204 relay module; 4204CF relay module provides two Class B (Style Y) notification appliance circuits. Compatible with the following Approved System Sensor two-wire detectors: Models 1151 with B110LP base, 1400, 1451 with B401B base, 1451DH with DH400 base ionization smoke; 2151 with B110LP base, 2400, 2451 with B401B base photoelectric smoke; 2400TH, 2451TH with B401B base photoelectric smoke with heat. The VISTA-128FBP, -250FBP are compatible with the 5808 LST Photoelectric Smoke/Heat Detector/Transmitter using the 5881ENHC receiver connected using the keypad port. ~~Optional PS24 power supply module (used only with VISTA-128FB)~~ provides one 24 V dc Class B (Style Y) notification appliance circuit. Primary power 120 V ac, 12 V dc batteries used with 12 to 34.4 AH capacity to provide 24 or 60 hours of emergency operation. (See also REMOTE STATION SIGNALING SYSTEMS and CENTRAL STATION SIGNALING SYSTEMS.)

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Remote Signaling

~~Deletions struck.~~

New Text Bold and Underlined

Ademco ~~VISTA-128FB, VISTA-32FB~~ **programmable control panel (firmware Versions WAVIS128-12.1FB, Rev. 2.1, for VISTA-128FB and WAVIS32-11FB, Rev. 1, for VISTA-32FB)**. A minimum of one 6139R keypad is required. Optional 7845C cellular transceiver (firmware version 1.2) set for ECP mode may be used as secondary communications with central station through AlarmNet bridging point. Primary power 120 V ac. ~~Optional PS24 power supply module for VISTA-128FB only.~~ 12 V dc batteries with up to 34.4 AH capacity are used to provide required 60 hours of emergency operation. (See also LOCAL PROTECTIVE SIGNALING and CENTRAL STATION SIGNALING SYSTEMS)

~~Ademco VISTA-128FB, VISTA-32FB~~ **programmable control panel (firmware Versions WAVIS128-12.1FB, Rev. 2.1, for VISTA-128FB and WAVIS32-11FB, Rev. 1, for VISTA-32FB)**. **Ademco VISTA-128FBP, VISTA-250FBP programmable control panel (firmware Versions WAVIS128FBP Rev. 10 for VISTA-128FBP and WAVIS250FBP, Rev. 10, for VISTA-250FBP)**. A minimum of one 6139R **or 6160** keypad is required. Optional 7845C cellular transceiver (firmware version 1.2) set for ECP mode may be used as secondary communications with central station through AlarmNet bridging point. Primary power 120 V ac. Optional PS24 power supply module for VISTA-128FB only. 12 V dc batteries with up to 34.4 AH capacity are used to provide required 60 hours of emergency operation. (See also LOCAL PROTECTIVE SIGNALING and CENTRAL STATION SIGNALING SYSTEMS)

Central Station

Ademco ~~VISTA-128FB, VISTA-32FB~~ **programmable control panel (firmware Versions WAVIS128-12.1FB, Rev. 2.1, for VISTA-128FB and WAVIS32-11FB, Rev. 1, for VISTA-32FB)**. A minimum of one 6139R keypad is required. Optional 7845C cellular transceiver (firmware version 1.2) set for ECP mode may be used as secondary communications with central station through AlarmNet bridging point. Primary power 120 V ac. Optional PS24 power supply module for VISTA-128FB only. 12 V dc batteries with up to 34.4 AH capacity are used to provide required 24 hours of emergency operation. ~~The VISTA-128FB is compatible with the Ademco 685 DACR.~~ (See also LOCAL PROTECTIVE SIGNALING and REMOTE STATION SIGNALING SYSTEMS)

Ademco VISTA-128FBP, VISTA-250FBP programmable control panel (firmware Versions WAVIS128FBP Rev. 10 for VISTA-128FBP and WAVIS250FBP, Rev. 10, for VISTA-250FBP), ~~Ademco VISTA-128FB, VISTA-32FB~~ **programmable control panel (firmware Versions WAVIS128-12.1FB, Rev. 2.1, for VISTA-128FB and WAVIS32-11FB, Rev. 1, for VISTA-32FB)**. A minimum of one 6139R **or 6160** keypad is required. **Installation of a 5140 DLM Back up dialer is required.** Optional 7845C cellular transceiver (firmware version 1.2) set for ECP mode may be used as secondary communications with central station through AlarmNet bridging point. Primary power 120 V ac. Optional PS24 power supply module for VISTA-128FB only. 12 V dc batteries with up to 34.4 AH capacity are used to provide required 24 hours of emergency operation. The VISTA-128FB is compatible with the Ademco 685 **and the MX8000** DACRs. (See also LOCAL PROTECTIVE SIGNALING and REMOTE STATION SIGNALING SYSTEMS)

FM APPROVALS
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APPENDIX II:

VISTA-128FBP/VISTA-250 FBP Installation and Setup Guide K0376 8/02 Section 1

General Description

.....

About the VISTA-128FBP/VISTA-250FBP


The VISTA-128FBP/VISTA-250FBP is an 8-partition, UL Listed commercial fire and burglary control panel with the following features:

- Up to 128 zones for VISTA-128FBP; 250 zones for VISTA-250FBP (hardwired, polling loop, and wireless zones)
- Up to 150 user codes for VISTA-128FBP; 250 user codes for VISTA-250FBP
- Supervision of Notification Appliance Circuits, phone lines, keypads, RF receivers, and output devices
- Scheduling capabilities (allows certain operations to be automated)
- The capability to link up to 8 control panels using Panel Linking Modules

The VISTA-128FBP/VISTA-250FBP can interface with the following devices:

- Symphony (AUI)
- An alpha numeric paging device (VA8201)
- Panel Link Module (VA8200)
- An ECP Long Range Radio that can send Contact ID messages
- An access control system by using either the ADEMCO PassPoint system (via the VISTA Gateway Module) or a VistaKey module (via the polling loop)

UL The access control function is not Listed for use with the VISTA-128FBP/VISTA-250FBP Control Panel in a UL installation.

 The system supports either the VistaKey or the VISTA Gateway Module, not both.

NOTE: All references in this manual for number of zones, number of user codes, number of access cards, and the event log capacity, use the VISTA-250FBP's features. The following table lists the differences between the VISTA-128FBP and the VISTA-250FBP control panels. All other features are identical.

Feature	VISTA-128FBP	VISTA-250FBP
Number of Zones	128	250
Number of User Codes	150	250
Number of Access Cards	250	500
Event Log Capacity	512	1000
VistaKey Modules	8	15

Features

Hardwire and Optional Expansion Zones

- Provides 8 hardwire zones.
- Supports up to 16 2-wire smoke detectors each on zone 1 and zone 2 (32 total).
- Automatically resets 4-wire smoke detectors using the J2 output when a code + off is entered.
- Triggers the built-in sounders on other hardwired smoke detectors if one smoke detector annunciates an alarm. This feature requires a 4204 Relay Module and/or the 333PRM.
- Provides tamper supervision on the hardwire zones.
- Supports up to 50 2-wire latching glassbreak detectors on zone 8.
- Supports up to 242 additional expansion zones (120 for the VISTA-128FBP) using a built-in polling (multiplex) loop.
- Supports up to 250 wireless zones (128 for the VISTA-128FBP) fewer if using hardwire and/or polling loop zones.

UL The 5881ENHC RF Receiver and the 5869 Holdup Switch Transmitter are listed for UL Commercial Burglary applications. All other RF receivers and transmitters are not listed for UL Commercial Burglary applications.

- Can program burglary zones as silent in the alarm condition (alarm output is silent and the keypad does not display or sound the alarm).
- Provides three keypad panic keys: 1 + * (A), * + # (B), and 3 + # (C).

Peripherals Devices

- Supports up to 31 addressable devices, (keypads, RF receivers, relay modules, etc.).
 - Supervises devices (keypads, RF receivers, and relay modules) and individual relays (up to 32), as well as system zones (RF receivers and keypad panics).
 - Provides 96 outputs using 4204 and 4204CF Relay Modules, Fire System Annunciators (FSA-8, FSA-24), and V-Plex Relay Modules can activate outputs in response to system events (alarm condition), at a specific time of day, at random times, and manually using the #70 Relay Command Mode.
 - Supports additional style-Y supervised Notification Appliance Circuits using a 4204CF.
 - Supports the ADEMCO 4285/4286 VIP Module, which allows access to the system from either a remote location or on the premises
-

UL The 4285/4286 VIP Module is not Listed for use with the VISTA-128FBP/VISTA-250FBP Control Panel in a UL installation.

- Supports the ADEMCO 4146 Keyswitch on any one of the system's 8 partitions.
- Supports the PS24 Power Supply Module, which supplies two 24VFW, 1.7A full-wave rectified, unfiltered outputs.

Arming/Disarming and Bypassing

- Can arm the system with zones faulted (Vent Zone). These zones are automatically bypassed and can be programmed to automatically unbypass when the zone restores.
 - Can arm with entry/exit and interior type zones faulted (Arm w/Fault). These zones must be restored before the exit delay expires, otherwise an alarm is generated.
-

UL

- Vent zones cannot be used in UL installations.
- You must disable the Force Arm option (used in conjunction with the Arm w/Fault option), in UL installations.

- Provides global arming capability (ability to arm all partitions the user code has access to in one command).
- Can Quick Exit an armed premises without having to disarm and then rearm the system.
- Can be armed in one of three STAY modes or Instant modes, automatically bypassing specific burglary zones regardless of the zone response type.
- Can automatically bypass specific zones if no one exits the premises after arming (Auto-STAY). Auto-STAY will not occur if the system is armed via an RF transmitter, VIP module, scheduling, access control, keyswitch, or downloading.
- Can bypass a group of zones with one set of keystrokes.
- Supports Exit Error Logic, whereby the system can tell the difference between a regular alarm and an alarm caused by leaving an entry/exit door open. If the system is not subsequently disarmed, faulted entry/exit zone(s) and/or interior zones are bypassed and the system arms.
- Supports Recent Close report, which is designed to notify the central station that an alarm has occurred within 2 minutes after the exit delay has expired.

Partitioning and Panel Linking

- Can control 8 separate areas (partitions) independently, each functioning as if it had its own separate control. All fire zones must be assigned to partition 1.
 - Provides a Common Lobby partition, which can be programmed to arm automatically when the last partition is armed, and to disarm when the first partition is disarmed.
 - Provides a Master partition (9), used for the purpose of viewing the status of all partitions at the same time.
 - Can display fire, burglary, panic, and trouble conditions at all other partitions' keypads (selectable option).
 - Can "link" together up to 8 control panels. This allows users to access and control from a keypad another control panel.
-

Scheduling

- Can automate system functions, such as arming, disarming, and activation of outputs (e.g., lights).
- Provides access schedules (for limiting system access to users by time).
- Provides an End User Output Programming Mode, allowing the user to control outputs.

Access Control

- Supports up to 15 VistaKey modules (15 access points) (VISTA-128FBP supports 8 modules), which are used for access control. It is a single-door access control module.
- Support up to 500 access cards (250 for the VISTA-128FBP).
- Supports ADEMCO PassPoint system via one VISTA Gateway Module (VGM), for a fully integrated access control system.
- Can store access control events in the event log.

System Communication

- Provides supervision of the phone lines (main and backup)
- Supports the 5140DLM optional backup dialer for the second phone line.
- Supports ADEMCO Contact ID; ADEMCO High Speed; ADEMCO Express; and 3+1, 4+1, and 4+2 ADEMCO and Sescoa/Radionics Low-Speed formats.



The system is shipped defaulted for Contact ID communication. It is the only format capable of uniquely reporting all 250 zones, as well as openings and closings for all 250 users. This requires central stations to be equipped with the ADEMCO 685 receiver using software level 4.10 or higher to fully support all new VISTA-128FBP/VISTA-250FBP report codes. If you need to update your 685 receiver, contact your distributor.

- Can send messages such as alarms, opens/closes, etc. to up to 8 paging services.
- Provides two paging formats (alphanumeric – requires the VA8201 Alpha Pager Module; and numeric – sent directly by the control)
- Supports Dynamic Signaling feature, which prevents redundant signals being sent to the central station when both the built-in dialer and Long Range Radio are used.
- Provides an Audio Alarm Verification (AAV) option that permits voice dialog between an operator at the central station and a person at the premises. An AAV unit, such as Eagle model 1250, is required.

UL The Eagle Model 1250 AAV unit is not UL Listed.

Downloading

- Supports upload and download capability.
- Can perform unattended downloading (no one at the downloading computer).
- Provides an Installer Unattended Program Mode. This allows the installer to program the download phone number, subscriber number, and primary central station receiver phone number without entering the normal program mode.
- Can periodically and automatically perform a scheduled download.

UL Unattended and Scheduled Downloading are not UL Listed features.

- Can download access control cardholder information.

Event Log

- Provides an event log (history log) that can store up to 1000 events (512 for the VISTA-128FBP).
- Can print the event log on a serial printer or parallel printer using the VA8201 Alpha Pager Module.
- Can view the event log on an alpha keypad or AUI.

Fire Walk-Test Mode

- Provides an automatic test of integrated V-Plex devices that have the automatic test feature.
- Can display all fire zones that remain untested.
- Can log test results in the event log.
- Can report the test results to the central station.

Additional Features

- Provides two style-Y supervised Notification Appliance Circuits.
- Provides an auxiliary relay (form C) that can activate alarms troubles/supervisories, reset 4-wire smoke detectors, or as a battery saver (removes power from non-critical loads 4 hours after AC power loss).
- Provides up to 60 installer-defined, custom words that can be used for zone descriptors.
- Provides 35 keypad macro commands (each macro is a series of keypad commands of up to 32 keystrokes) using the A, B, C, and D keys by partition.
- Provides cross-zone capability, which helps prevent false alarms by preventing a zone from going into alarm unless its cross-zone is also faulted within a 5-minute period.
- Contains a built-in User's Manual, which provides the end user with a brief explanation of the function of a key when the user presses any of the function keys on the keypad for 5 seconds.
- Provides trigger outputs, which may interface with Long Range Radio equipment or other devices such as keyswitch LEDs, or printer.
- Provides an option to have trouble and supervisory conditions to automatically clear from the display when the zone returns to the ready/normal state (entry of Code + OFF is not required).
- Provides Maintenance Signal support for certain smoke detectors (5808, 4192CPM, 4192SDM, 4192SDTM, 5192).



At least one 2-line alpha keypad (6139/6160) must be connected to the system for programming (if you are using keypad programming), and must remain connected to the system in order to allow the primary user to program additional user codes into the system at a later time.

DESCRIPTION

PRODUCT COVERED:

USL, CNL - Combination Control/Communicator Models 5140XM, Vista 100, Vista-128FB, Vista-128FBP, Vista-250FBP, VISTA-250FBPADT, FA1600C, FA1700C and Vista-32FB intended for use with Model 1451 Transformer.

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

##: For Canadian Versions Only

USL indicates evaluation to the following Standards:

- *UL 609 -Local Burglar Alarm Units and Systems
- *UL 365 -Police Station Connected Burglar Alarm Units and Systems
- *UL 1610-Central Station Burglar Alarm Units
- *UL 1635 -Digital Alarm Communicator System Units
- *UL 864 -Control Units For Fire-Protective Signaling Systems.

CNL indicates evaluation to the Standard for Central and Monitoring Station Burglar Alarm Units, CAN/ULC-S304-M88, the Standard for Fire Protective Signaling Systems, CAN/ULC-S527-M89, and the Standard for Supervising Station Communication Systems, NFPA-72, Section 4-5.

Suitable for Local Protective Signaling System use when used with suitable sounding device. Compatible alarm indicating/notification appliances, with EOL supervision, shall be employed as indicated in the control unit's installation instructions. Battery and loading requirements shall be configured as described in the Installation Instructions to provide for 24 hours of normal standby power and at least 5 minutes of general alarm standby power. Combined auxiliary power and alarm currents shall not exceed 2.3 A.

Suitable for Central Station Protective Signaling Service when used with Model 7620ULF, 7720ULF or with Model 5140DLM for central station monitoring. Local alarm indicating/notification appliance use is optional subject to the requirements of the Local Authorities Having Jurisdiction. Battery and loading requirements shall be configured as described in the Installation Instructions for Central Station service.

Suitable for Remote Station Fire Alarm System Service when used with Model 5140DLM. Local alarm indicating/notification appliance use is optional subject to the requirements of the Local Authorities Having Jurisdiction. Battery and loading requirements shall be configured as described in the Installation Instructions for Remote Station service to provide 60 hours of normal standby power and at least 5 minutes of general alarm standby power.

A total of eight operator keypads, (Model 6139CN or FA560KP) may be connected to each control unit by means of the four-wire bush provided.

The Model 6137B, 6139B, 6150 and 6160 keypads are intended for use with the Vista-128FB control unit and are connected by means of the 4-wire bus.

##: When connected to SRRF signal receiver, Model 5882, wireless devices may be used.

Suitable for Grade A local mercantile Burglar Alarm Service when used with a Listed Burglar Alarm Sounding Device/Housing. Depending upon installation application a compatible Listed sounding device enclosure may also be required. As indicated in the Installation Instructions a Listed tamper switch shall be used to protect the control unit's cover and all conduit openings to the control shall be used or blocked. As a result of the attack test results described in File S789, Report dated August 12, 1992 the maximum entry delay time shall not exceed 45 s and maximum exit delay time shall not exceed 60 s. Suitable for safe and vault burglar alarm installations when also used with a shock sensor Listed for protection of sheet metal enclosures and a Listed tamper switch installed on the rear of the control unit.

Suitable for Grade A Police Station Connected Burglar Alarm System Service when the 24 hour test report is enabled, programmed for 24 hour Test Reporting, or can be used with Model 346 polarity reversing relay/voltage booster or Model 7720, or 7620ULF Long Range Radio, or 5140DLM Backup Dialer (Basic Line Security). Suitable for Grade AA (High Line Security) when used in conjunction with Model 445 direct wire transmitter or Model 7920SE Long Range Radio. The digital alarm communicator transmitter shall be programmed for UL installations as stated in the Installation Instructions.

Suitable for Grade C Central Station Service, Grade B Central Station Service when used with a Listed Mercantile Sounding Device. Depending upon the installation application a compatible Listed sounding device enclosure may also be required. Suitable for Grade A Central Station Service when used with Model 7720 Long Range Radio or Model 7620ULF Long Range Radio. One zone of the control panel shall be programmed as a 24-hour zone to supervise the radio unit. Suitable for Grade AA, BB or CC Central Station service when used with the 7920SE Long Range Radio as indicated in the installation instructions. As indicated in the Installation Instructions a Listed tamper switch shall be used to protect the control unit's cover and all conduit openings to the control shall be used or blocked. Suitable for safe and vault burglar alarm installations when also used with a shock sensor Listed for protection of sheet metal enclosures and a Listed tamper switch installed on the rear of the control unit.

The Vista 100 and 128FB Controls can be partitioned into a maximum of 8 areas. The Vista-32FB can only be partitioned into a maximum of 2 areas. All fire zones shall be assigned to partition 1. The manufacturers installation instructions shall be observed for all UL applications of zone partitioning.

Except for the following differences the Vista-32FB is identical to the Vista-128FB. The Vista-32FB:

- A) Has reduced software features.
- B) The primary transformer is mounted inside the control unit enclosure and is separated from the rest of the control unit wiring by a sheet steel frame.

The Vista-128FBP is identical to the Vista-128FB except for the addition *of the following features: Internet Communication Module, cancel verify, Fire verify, Quick exit, Group bypass, Arm faulted, Stay1, Stay2, Auto stay silent burg, and tamper option each zone.

The Vista-250FBP is identical to the Vista-128FBP except that it supports 16 vista key modules, 250 zones, 250 users, 1000 event log, and 500 vista card holders.

The FA1700C is the First alert version of the Vista-250FBP).

The Vista-250FBPADT is identical to the Vista-250FBP except for ADT defaults and the changes in hardware and software to support the AC communicator module, Model 472491D. The AC Communicator module, Model 472491D, can only be used as a dedicated AC telephone line mode. The Vista-250FBPADT is suitable for used with the Internet Communication Module, Models 7845i, 7845i-ENT and the Premises Cellular Control Channel Transceiver, Model 7845C. The Models 7845i, 7845i-ENT and 7845C device must either be mounted in the control panel cabinet, or within 3 feet of the panel cabinet with wiring routed in conduit.

All commercial fire alarm installations shall comply with the installation requirements contained in NFPA 72 - National Fire Alarm Code. All UL commercial burglar alarm installations shall comply with the installation requirements contained in UL Standard 681, Installation And Classification of Burglar And Holdup Alarm Systems. Each control unit is intended to be used with other separately Listed devices as indicated in the manufacturer's Installation Instructions. Two wire and four wire smoke detectors shall be installed as specified by the control unit's installation instructions. The units are intended for the applications described in Table I.

In order to provide fire protective signaling service, the Model Vista-128FB control units shall be provided with a backup signaling channel by means of the Model 7835CF cellular control channel transceiver, which is connected to the control unit by means of the data communication bus designed for this purpose.

The Model Vista-128FB unit is powered from a Class II limited energy plug-in type transformer and two sealed lead acid batteries provide 24-hour standby capacity.

The system shall be installed in accordance with the Manufacturer's Installation Instructions and the Canadian Electrical Code, Part I.

Model FA1600C is identical to Vista-100 except for model designation.

5806W3

WIRELESS PHOTOELECTRIC SMOKE DETECTOR



Honeywell's 5806W3 is a 3V battery operated, photoelectric smoke detector with a built-in wireless transmitter. It facilitates fire verification for false alarm reduction requirements by ANSI/SIA CP-01 standards and is intended for use with any of Honeywell's 5800 Series wireless receiver/transceivers for residential installations. The 5881ENHC or 5883H receivers are required for commercial installations.

The transmitter can send alarm, tamper, maintenance (when control panels are equipped to process maintenance signals) and battery condition messages to the system's receiver. The maintenance signal fully complies with the sensitivity test requirement specified in NFPA 72, 7-2.2 and is UL approved.

The 5806W3 incorporates a state-of-the-art optical sensing chamber and advanced microprocessor. It also helps

eliminate nuisance alarms and virtually eliminates non-billable service calls and fines resulting from false alarms. The microprocessor allows the detector to automatically maintain proper operation at factory calibrated detection levels, even when sensitivity is altered due to the presence of contaminants settling into the unit's smoke chamber. A removable detector cover and chamber top allows the technician to quickly and easily clean the detector chamber without disassembling the detector head.

Since there are no holes to drill or wires to run, installers can preserve the beauty of the protected premise while protecting it. The 5806W3 is an ideal smoke detector for difficult to wire locations, applications where room aesthetics are critical or where hazardous materials exist.

FEATURES

- **Smoothing Algorithms**

Mathematical calculations in the detector's software that minimize nuisance alarms by smoothing out short term spikes from dust and smoke.

- **Smart Check**

A signal is sent to the control panel when the detector requires cleaning. This allows a regular, non-emergency service call to clean the detector before it goes into alarm.

- **Drift Compensation**

Virtually eliminates nuisance alarms from long-term dust build-up by automatically adjusting the detector's sensitivity.

- **Removable Detector Cover and Chamber Top**

Provides the technician the ability to quickly and easily clean the detector

chamber without disassembling the detector head.

- **Approved UL Listings for Residential and Commercial Applications**

Both residential and commercial installation requirements are met.

- **Additional LED Status Indicators**

Identifying between alarm or trouble conditions is easier with green and red LED status indicators. The green LED denotes a normal condition while the red LED indicates an abnormal condition.

- **Easy-to-install Mounting Base**

The sturdy mounting base allows the detector to be more easily installed on uneven surfaces (i.e. stucco). The mounting base has larger mounting ports to accommodate drywall anchors for easy surface mounting.

- **Improved Robust RF Field Strength**

The distance between the detector and receiver has been significantly increased.

- **Additional Features:**

- Utilizes one long-life 3V lithium battery
- Microcontroller runs on an 4.0 MHz clock
- Horn operates at 3.3 KHz with sound pressure level of 85dBA at 10 feet
- Built-in wireless transmitter, temporal code 3 sounder

5806W3

WIRELESS PHOTOELECTRIC SMOKE DETECTOR

SPECIFICATIONS

- **Dimensions**
 - Diameter: 5.3", Height: 2.30"
- **Weight**
 - 8.5 oz. (without batteries)
- **Operating Temperature**
 - 32–100°F (0–37.8°C)
- **Humidity Range**
 - 0% to 95% RH, non-condensing
- **Air Velocity**
 - 1,000 ft./min. max.
- **Operating Voltage**
 - 2.5–3.6VDC
- **Standby Current**
 - 8.5 μ A avg.
- **Alarm Current**
 - 35 mA max.
- **Power Source**
 - One 3V CR123A lithium Battery†
- **Audible Output**
 - 85dB min. @ 10 ft.
- **Agency Listings**
 - UL268 – Commercial and Residential

* With adapter bracket (4.9" without mounting base)

† Replacement batteries include Duracell DL123A, Sanyo CR123A, Panasonic CR123A, or ADEMCO 466

ACCESSORIES (sold separately)

SENS-RDR Infrared Sensitivity Reader

Reduces testing time, simplifies sensitivity measurements and displays them precisely in terms of percent per foot obscuration. The SENS-RDR eliminates the need for magnets, voltmeters and ladders.



RT Removal Tool

Simplifies the attachment and removal of the detector head to the mounting base. It may be attached to a threaded extension pole or broom handle thereby eliminating the need for ladders.



ORDERING

5806W3 Wireless Photoelectric Smoke Detector with Built-in Wireless Transmitter

Accessories sold separately:

SENS-RDR Hand-held Sensitivity Reader

RT i3 Removal Tool used for easy installation and removal of head from base

Honeywell Security & Communications

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Honeywell

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February 2008
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5809

WIRELESS HEAT DETECTOR



Honeywell's 5809 wireless fixed heat and rate-of-rise temperature sensor offers expanded fire detection and installation flexibility. It is ideal for hard to wire locations and applications that require more than smoke detection. With no wires to run, the 5809 is fast and easy to install.

The 5809 combines both rate-of-rise and fixed temperature sensors. Fires typically cause a rapid rise in temperature in the

surrounding area. The 5809's rate-of-rise thermostat senses the rise in temperature and signals an alarm if the increase is 15° or more per minute. A built-in fixed temperature sensor will also signal an alarm if the environmental temperature rises above 135°F. The 5809 is UL Listed (UL521) and CSFM approved for commercial and residential applications.

FEATURES

- Contains a built-in transmitter which can send alarm, supervisory and battery condition messages to the system's receiver/control unit
- Powered by a three-volt lithium battery. If the battery voltage gets too low, the 5809 sends a low battery signal to the control panel
- Features a tamper switch, which causes a trouble signal to be sent to the control if the unit is removed from the mounting base
- UL Listed for Commercial (when using 5881EH Receiver) or Residential applications

5809

WIRELESS HEAT DETECTOR

SPECIFICATIONS:

• **Power:**

- 3V lithium battery (Duracell DL123A, Panasonic CR123A, Sanyo CR123A, Varta CR123A)
- Operating temperature: 40° to 140°F (6° to 60°C)
- Rate-of-rise temperature: 15°F (8°C) increase per minute (NOTE: Rate-of-rise sensor does not operate above 38°C)

- Fixed temperature: 135°F (57°C)
- Maximum spacing: 50 ft x 50 ft UL, 30 ft x 30 ft FM (refer to National Fire Alarm Code Standard NFPA 72 for application requirements)
- Dimensions: 4.4" diameter/2/2" deep

• **Agency Listings:**

- UL 521 Listed for Commercial (when using 5881EH Receiver) or

Residential applications

• **Wireless Transmission Path Test:**

- A good RF transmission path must be established from the proposed mounting location before permanently installing the detector. To determine that there is a good signal reception from the proposed location, perform the test procedure described in the installation instructions procedure.

MOUNTING THE DETECTOR:

- You can mount the 5809 on a wall or ceiling within the protection area:
- Wall mounting: Mount the detector 4" 6" from the ceiling
- Ceiling mounting: Mount the detector at least 4" from any wall. Make sure the normal ceiling temperature will not exceed 100°F (37.8° C).

- Refer to NFPA Standard 72 for detector spacing and other requirements. Maximum spacing for UL installations is 50' x 50'
- Avoid mounting the detector near heat generating devices (e.g. ovens, heat vents, furnaces, boilers)
- IMPORTANT: Heat detectors should

be used for property protection. Reliance should not be placed solely on heat detectors for life safety. When life safety is involved, smoke detectors MUST also be used. Detectors must not be painted.

TESTING THE DETECTOR:

The test procedure should be performed to determine a good RF transmission path and again after installation is completed.

CAUTION: The fixed temperature sensor is intended for one-time use. Prolonged heat during testing can damage the unit. If used carefully following the instructions described below, the heat from a portable hair dryer can be used to test the unit. If the round disk on top of the detector detaches, the detector must be replaced.

- Activate the control panel's test mode

- Use either method (a) or (b) or activate the detector

- (a) Press and release the activation button on the PC board assembly OR
- (b) Holding a portable hair dryer about 12 to 18 inches away from the detector, turn the dryer on and aim the warm air at the side of the detector.

CAUTION: Aiming the dryer directly at the round disk on the detector can damage the unit to be replaced.

- The system's keypad should beep and the detector's ID should be displayed

- Exit the control's test mode
FCC ID: CFS 8DL 5809

This device complies with part 15 of FCC rules.

Operation is subject to the following conditions:

- (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

ORDERING

5809

Heat Detector

Honeywell Security & Custom Electronics

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October 2007
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5881ENHC

COMMERCIAL WIRELESS RECEIVER



The new 5881ENHC RF Receiver is designed for use with control panels that are approved for use in commercial fire and/or burglary installations. The receiver recognizes alarm, status and keypad control messages from wireless

transmitters operating at 345 MHz. The receiver also features a Spatial Diversity System that virtually eliminates "nulls" and "dead spots" within the coverage area.

FEATURES

- Front and back tamper for commercial fire/burg installations
- One or two receivers can be used to provide redundant coverage or extend coverage in large areas
- Spatial Diversity System virtually eliminates "nulls" and "dead spots" within the coverage area
- Can be mounted remotely, anywhere on the keypad bus, for extended coverage
- Compatible with all 5800 series wireless devices
- Connects to control panel via the keypad bus
- UL listed for Commercial Fire/Burg applications

COMPATIBLE CONTROLS

- VISTA-32FB
- VISTA-128BP
- VISTA-128FBP
- VISTA-250BP
- VISTA-250FBP
- FA1600 series
- FA1700 series

SPECIFICATIONS

Dimensions

- 7-3/8" W x 4-3/8" (10-7/8" with antennas) H x 1-7/16" D
188mm W x 112mm H
(277mm with antennas) x 37mm D

Input Voltage

- 12VDC (from control's keypad terminals)

Current

- 60mA (typical)

Operating Temperature

- 32° F to 122° F
(0° C to 50° C)

ORDERING

5881ENHC

Commercial Wireless Receiver

Interface Wiring

- RED: 12VDC input (+) Aux. power
- GREEN: Data out to control
- YELLOW: Data in from control
- BLACK: Ground (-)

Range

- 200 ft (60m) nominal indoors from wireless transmitters (the actual range to be determined with the security system in the Test mode)

Installation

- See product installation instructions for details on programming and mounting

UL Listings

- Commercial Fire UL 864
- Household Fire UL 985
- Household Burg UL 1023
- Commercial Burg UL 365, UL 609, UL 1076, UL 1610
- FM
- MEA
- CSFM

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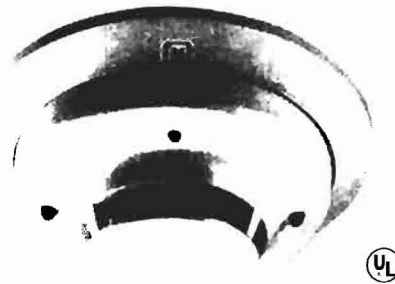
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Honeywell

5193SD/5193SDT

V-PLEX® ADDRESSABLE SMOKE DETECTOR



Honeywell's 5193SD/SDT Addressable Photoelectric Smoke Detector is designed to provide open area protection and to be used with compatible UL-listed Honeywell control panels that support V-Plex technology. The detector incorporates a state-of-the-art optical sensing chamber and an advanced microprocessor. Built-in Drift Compensation algorithms automatically maintain proper operation at factory calibrated detection levels, even when sensitivity is altered due to the presence of contaminants settling into the unit's chamber. The 5193SDT also features a restorable, built-in, fixed temperature (135° F/57.2° C) thermal detector.

FEATURES

- **Easy Installation:** Installation of the 5193SD/SDT detector is simplified by the use of a mounting base that may be pre-wired to the system, allowing the detector to be easily installed or removed for maintenance or service. (See Figure 1).
- **LED Status Indicators:** Two LEDs (green and red) provide local visual indication of the detector's status – including normal operation, alarm, out of sensitivity and trouble conditions.
- **Test button:** This button allows the user to perform periodic testing of the detector's circuitry and verify that the detector is within the sensitivity limits.
- **Versatile Mounting:** Mounting is made simple with the included hardware and the large mounting ports, which accommodate drywall anchors for easy surface mounting. (See Figure 1).
- **Tamper Protection and Tamper Resistance:** The detector contains a built-in tamper switch that can communicate back to the control panel in the event the detector is removed from its base. For an added level of security, the detector also includes a tamper resistant element that prevents removal from the base without the use of tools. (See Figure 1).

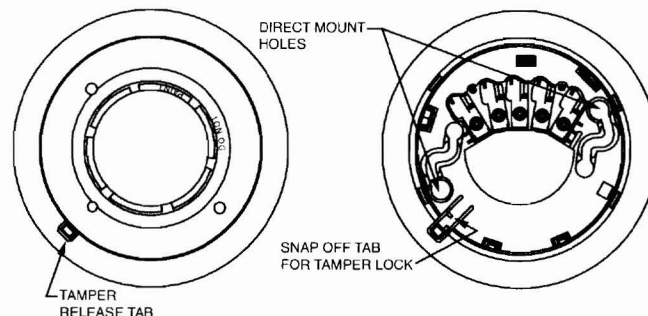


Figure 1: Tamper-Resistant Feature/Wiring

5193SD/5193SDT

V-PLEX® ADDRESSABLE SMOKE DETECTOR

SPECIFICATIONS

- **Heat Sensor:** (Model 5193SDT):
135° F (57.2° C);
Fixed Temperature Electronic Thermistors
- **Operating Ambient Temperature Range:**
32° to 100° F (0° to 38° C)
- **Operating Humidity Range:**
0 to 95% RH non-condensing
- **Storage Temperature Range:**
-4° to 158° F (-20° to 70°C)
- **Diameter (including base):** 5.3 inches
- **Height (including base):** 2.0 inches
- **Weight:** 6.3 oz.
- **Agency Listing:** UL-268
- **System Voltage Range:** 7-14V
- **Standby Current** (maximum @ 12V)
LED off: 1.2mA
LED on: 2.8mA

ACCESSORY (sold separately)

To measure the detector's sensitivity, the **SENS-RDR Infrared Sensitivity Reader tool (sold separately)** should be used. It reduces testing time, simplifies sensitivity measurements and displays them precisely in terms of percent per foot obscuration. The SENS-RDR eliminates the need for magnets, voltmeters and ladders.

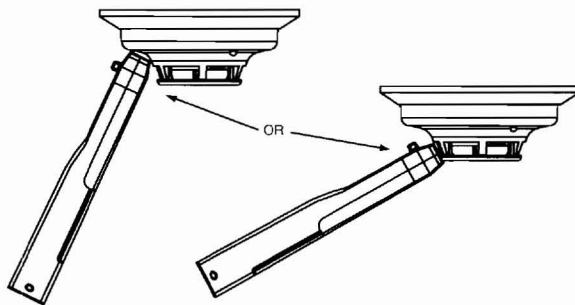


Figure 2: Position of Reader



ORDERING

- | | |
|----------------|--|
| 5193SD | Addressable Photoelectric Smoke Detector |
| 5193SDT | Addressable Photoelectric Smoke Detector with Integral Heat Sensor |

Accessory sold separately:

- | | |
|-----------------|-----------------------------|
| SENS-RDR | Handheld Sensitivity Reader |
|-----------------|-----------------------------|

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Honeywell

General Description

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About the VISTA-128FBP/VISTA-250FBP

The VISTA-128FBP/VISTA-250FBP is an 8-partition, UL Listed commercial fire and burglary control panel with the following features:

- Up to 128 zones for VISTA-128FBP; 250 zones for VISTA-250FBP (hardwired, polling loop, and wireless zones)
- Up to 150 user codes for VISTA-128FBP; 250 user codes for VISTA-250FBP
- Supervision of Notification Appliance Circuits, phone lines, keypads, RF receivers, and output devices
- Scheduling capabilities (allows certain operations to be automated)
- The capability to link up to 8 control panels using Panel Linking Modules

The VISTA-128FBP/VISTA-250FBP can interface with the following devices:

- Symphony (AUT)
- An alpha numeric paging device (VA8201)
- Panel Link Module (VA8200)
- An ECP Long Range Radio that can send Contact ID messages
- An access control system by using either the ADEMCO PassPoint system (via the VISTA Gateway Module) or a VistaKey module (via the polling loop)

UL The access control function is not Listed for use with the VISTA-128FBP/VISTA-250FBP Control Panel in a UL installation.

 The system supports either the VistaKey or the VISTA Gateway Module, not both.

NOTE: All references in this manual for number of zones, number of user codes, number of access cards, and the event log capacity, use the VISTA-250FBP's features. The following table lists the differences between the VISTA-128FBP and the VISTA-250FBP control panels. All other features are identical.

Feature	VISTA-128FBP	VISTA-250FBP
Number of Zones	128	250
Number of User Codes	150	250
Number of Access Cards	250	500
Event Log Capacity	512	1000
VistaKey Modules	8	15

Features

Hardwire and Optional Expansion Zones

- Provides 8 hardwire zones.
- Supports up to 16 2-wire smoke detectors each on zone 1 and zone 2 (32 total).
- Automatically resets 4-wire smoke detectors using the J2 output when a code + off is entered.
- Triggers the built-in sounders on other hardwired smoke detectors if one smoke detector annunciates an alarm. This feature requires a 4204 Relay Module and/or the 333PRM.
- Provides tamper supervision on the hardwire zones.
- Supports up to 50 2-wire latching glassbreak detectors on zone 8.
- Supports up to 242 additional expansion zones (120 for the VISTA-128FBP) using a built-in polling (multiplex) loop.
- Supports up to 250 wireless zones (128 for the VISTA-128FBP) fewer if using hardwire and/or polling loop zones.

UL The 5881ENHC RF Receiver and the 5869 Holdup Switch Transmitter are listed for UL Commercial Burglary applications. All other RF receivers and transmitters are not listed for UL Commercial Burglary applications.

- Can program burglary zones as silent in the alarm condition (alarm output is silent and the keypad does not display or sound the alarm).
- Provides three keypad panic keys: 1 + * (A), * + # (B), and 3 + # (C).

Peripherals Devices

- Supports up to 31 addressable devices, (keypads, RF receivers, relay modules, etc.).
 - Supervises devices (keypads, RF receivers, and relay modules) and individual relays (up to 32), as well as system zones (RF receivers and keypad panics).
 - Provides 96 outputs using 4204 and 4204CF Relay Modules, Fire System Annunciators (FSA-8, FSA-24), and V-Plex Relay Modules can activate outputs in response to system events (alarm condition), at a specific time of day, at random times, and manually using the #70 Relay Command Mode.
 - Supports additional style-Y supervised Notification Appliance Circuits using a 4204CF.
 - Supports the ADEMCO 4285/4286 VIP Module, which allows access to the system from either a remote location or on the premises
-

UL The 4285/4286 VIP Module is not Listed for use with the VISTA-128FBP/VISTA-250FBP Control Panel in a UL installation.

- Supports the ADEMCO 4146 Keyswitch on any one of the system's 8 partitions.
- Supports the PS24 Power Supply Module, which supplies two 24VFW, 1.7A full-wave rectified, unfiltered outputs.

Arming/Disarming and Bypassing

- Can arm the system with zones faulted (Vent Zone). These zones are automatically bypassed and can be programmed to automatically unbypass when the zone restores.
 - Can arm with entry/exit and interior type zones faulted (Arm w/Fault). These zones must be restored before the exit delay expires, otherwise an alarm is generated.
-

UL

- Vent zones cannot be used in UL installations.
- You must disable the Force Arm option (used in conjunction with the Arm w/Fault option), in UL installations.

- Provides global arming capability (ability to arm all partitions the user code has access to in one command).
- Can Quick Exit an armed premises without having to disarm and then rearm the system.
- Can be armed in one of three STAY modes or Instant modes, automatically bypassing specific burglary zones regardless of the zone response type.
- Can automatically bypass specific zones if no one exits the premises after arming (Auto-STAY). Auto-STAY will not occur if the system is armed via an RF transmitter, VIP module, scheduling, access control, keyswitch, or downloading.
- Can bypass a group of zones with one set of keystrokes.
- Supports Exit Error Logic, whereby the system can tell the difference between a regular alarm and an alarm caused by leaving an entry/exit door open. If the system is not subsequently disarmed, faulted entry/exit zone(s) and/or interior zones are bypassed and the system arms.
- Supports Recent Close report, which is designed to notify the central station that an alarm has occurred within 2 minutes after the exit delay has expired.

Partitioning and Panel Linking

- Can control 8 separate areas (partitions) independently, each functioning as if it had its own separate control. All fire zones must be assigned to partition 1.
 - Provides a Common Lobby partition, which can be programmed to arm automatically when the last partition is armed, and to disarm when the first partition is disarmed.
 - Provides a Master partition (9), used for the purpose of viewing the status of all partitions at the same time.
 - Can display fire, burglary, panic, and trouble conditions at all other partitions' keypads (selectable option).
 - Can "link" together up to 8 control panels. This allows users to access and control from a keypad another control panel.
-

Scheduling

- Can automate system functions, such as arming, disarming, and activation of outputs (e.g., lights).
- Provides access schedules (for limiting system access to users by time).
- Provides an End User Output Programming Mode, allowing the user to control outputs.

Access Control

- Supports up to 15 VistaKey modules (15 access points) (VISTA-128FBP supports 8 modules), which are used for access control. It is a single-door access control module.
- Support up to 500 access cards (250 for the VISTA-128FBP).
- Supports ADEMCO PassPoint system via one VISTA Gateway Module (VGM), for a fully integrated access control system.
- Can store access control events in the event log.

System Communication

- Provides supervision of the phone lines (main and backup)
- Supports the 5140DLM optional backup dialer for the second phone line.
- Supports ADEMCO Contact ID; ADEMCO High Speed; ADEMCO Express; and 3+1, 4+1, and 4+2 ADEMCO and Sescoa/Radionics Low-Speed formats.



The system is shipped defaulted for Contact ID communication. It is the only format capable of uniquely reporting all 250 zones, as well as openings and closings for all 250 users. This requires central stations to be equipped with the ADEMCO 685 receiver using software level 4.10 or higher to fully support all new VISTA-128FBP/VISTA-250FBP report codes. If you need to update your 685 receiver, contact your distributor.

- Can send messages such as alarms, opens/closes, etc. to up to 8 paging services.
- Provides two paging formats (alphanumeric – requires the VA8201 Alpha Pager Module; and numeric – sent directly by the control)
- Supports Dynamic Signaling feature, which prevents redundant signals being sent to the central station when both the built-in dialer and Long Range Radio are used.
- Provides an Audio Alarm Verification (AAV) option that permits voice dialog between an operator at the central station and a person at the premises. An AAV unit, such as Eagle model 1250, is required.

UL The Eagle Model 1250 AAV unit is not UL Listed.

Downloading

- Supports upload and download capability.
- Can perform unattended downloading (no one at the downloading computer).
- Provides an Installer Unattended Program Mode. This allows the installer to program the download phone number, subscriber number, and primary central station receiver phone number without entering the normal program mode.
- Can periodically and automatically perform a scheduled download.

UL Unattended and Scheduled Downloading are not UL Listed features.

- Can download access control cardholder information.

Event Log

- Provides an event log (history log) that can store up to 1000 events (512 for the VISTA-128FBP).
- Can print the event log on a serial printer or parallel printer using the VA8201 Alpha Pager Module.
- Can view the event log on an alpha keypad or AUI.

Fire Walk-Test Mode

- Provides an automatic test of integrated V-Plex devices that have the automatic test feature.
- Can display all fire zones that remain untested.
- Can log test results in the event log.
- Can report the test results to the central station.

Additional Features

- Provides two style-Y supervised Notification Appliance Circuits.
- Provides an auxiliary relay (form C) that can activate alarms troubles/supervisories, reset 4-wire smoke detectors, or as a battery saver (removes power from non-critical loads 4 hours after AC power loss).
- Provides up to 60 installer-defined, custom words that can be used for zone descriptors.
- Provides 35 keypad macro commands (each macro is a series of keypad commands of up to 32 keystrokes) using the A, B, C, and D keys by partition.
- Provides cross-zone capability, which helps prevent false alarms by preventing a zone from going into alarm unless its cross-zone is also faulted within a 5-minute period.
- Contains a built-in User's Manual, which provides the end user with a brief explanation of the function of a key when the user presses any of the function keys on the keypad for 5 seconds.
- Provides trigger outputs, which may interface with Long Range Radio equipment or other devices such as keyswitch LEDs, or printer.
- Provides an option to have trouble and supervisory conditions to automatically clear from the display when the zone returns to the ready/normal state (entry of Code + OFF is not required).
- Provides Maintenance Signal support for certain smoke detectors (5808, 4192CPM, 4192SDM, 4192SDTM, 5192).



At least one 2-line alpha keypad (6139/6160) must be connected to the system for programming (if you are using keypad programming), and must remain connected to the system in order to allow the primary user to program additional user codes into the system at a later time.

DESCRIPTION

PRODUCT COVERED:

USL, CNL - Combination Control/Communicator Models 5140XM, Vista 100, Vista-128FB, Vista-128FBP, Vista-250FBP, VISTA-250FBPADT, FA1600C, FA1700C and Vista-32FB intended for use with Model 1451 Transformer.

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

##: For Canadian Versions Only

USL indicates evaluation to the following Standards:

- *UL 609 -Local Burglar Alarm Units and Systems
- *UL 365 -Police Station Connected Burglar Alarm Units and Systems
- *UL 1610-Central Station Burglar Alarm Units
- *UL 1635 -Digital Alarm Communicator System Units
- *UL 864 -Control Units For Fire-Protective Signaling Systems.

CNL indicates evaluation to the Standard for Central and Monitoring Station Burglar Alarm Units, CAN/ULC-S304-M88, the Standard for Fire Protective Signaling Systems, CAN/ULC-S527-M89, and the Standard for Supervising Station Communication Systems, NFPA-72, Section 4-5.

Suitable for Local Protective Signaling System use when used with suitable sounding device. Compatible alarm indicating/notification appliances, with EOL supervision, shall be employed as indicated in the control unit's installation instructions. Battery and loading requirements shall be configured as described in the Installation Instructions to provide for 24 hours of normal standby power and at least 5 minutes of general alarm standby power. Combined auxiliary power and alarm currents shall not exceed 2.3 A.

Suitable for Central Station Protective Signaling Service when used with Model 7620ULF, 7720ULF or with Model 5140DLM for central station monitoring. Local alarm indicating/notification appliance use is optional subject to the requirements of the Local Authorities Having Jurisdiction. Battery and loading requirements shall be configured as described in the Installation Instructions for Central Station service.

Suitable for Remote Station Fire Alarm System Service when used with Model 5140DLM. Local alarm indicating/notification appliance use is optional subject to the requirements of the Local Authorities Having Jurisdiction. Battery and loading requirements shall be configured as described in the Installation Instructions for Remote Station service to provide 60 hours of normal standby power and at least 5 minutes of general alarm standby power.

A total of eight operator keypads, (Model 6139CN or FA560KP) may be connected to each control unit by means of the four-wire bush provided.

The Model 6137B, 6139B, 6150 and 6160 keypads are intended for use with the Vista-128FB control unit and are connected by means of the 4-wire bus.

##: When connected to SRRF signal receiver, Model 5882, wireless devices may be used.

Suitable for Grade A local mercantile Burglar Alarm Service when used with a Listed Burglar Alarm Sounding Device/Housing. Depending upon installation application a compatible Listed sounding device enclosure may also be required. As indicated in the Installation Instructions a Listed tamper switch shall be used to protect the control unit's cover and all conduit openings to the control shall be used or blocked. As a result of the attack test results described in File S789, Report dated August 12, 1992 the maximum entry delay time shall not exceed 45 s and maximum exit delay time shall not exceed 60 s. Suitable for safe and vault burglar alarm installations when also used with a shock sensor Listed for protection of sheet metal enclosures and a Listed tamper switch installed on the rear of the control unit.

Suitable for Grade A Police Station Connected Burglar Alarm System Service when the 24 hour test report is enabled, programmed for 24 hour Test Reporting, or can be used with Model 346 polarity reversing relay/voltage booster or Model 7720, or 7620ULF Long Range Radio, or 5140DLM Backup Dialer (Basic Line Security). Suitable for Grade AA (High Line Security) when used in conjunction with Model 445 direct wire transmitter or Model 7920SE Long Range Radio. The digital alarm communicator transmitter shall be programmed for UL installations as stated in the Installation Instructions.

Suitable for Grade C Central Station Service, Grade B Central Station Service when used with a Listed Mercantile Sounding Device. Depending upon the installation application a compatible Listed sounding device enclosure may also be required. Suitable for Grade A Central Station Service when used with Model 7720 Long Range Radio or Model 7620ULF Long Range Radio. One zone of the control panel shall be programmed as a 24-hour zone to supervise the radio unit. Suitable for Grade AA, BB or CC Central Station service when used with the 7920SE Long Range Radio as indicated in the installation instructions. As indicated in the Installation Instructions a Listed tamper switch shall be used to protect the control unit's cover and all conduit openings to the control shall be used or blocked. Suitable for safe and vault burglar alarm installations when also used with a shock sensor Listed for protection of sheet metal enclosures and a Listed tamper switch installed on the rear of the control unit.

The Vista 100 and 128FB Controls can be partitioned into a maximum of 8 areas. The Vista-32FB can only be partitioned into a maximum of 2 areas. All fire zones shall be assigned to partition 1. The manufacturers installation instructions shall be observed for all UL applications of zone partitioning.

Except for the following differences the Vista-32FB is identical to the Vista-128FB. The Vista-32FB:

- A) Has reduced software features.
- B) The primary transformer is mounted inside the control unit enclosure and is separated from the rest of the control unit wiring by a sheet steel frame.

The Vista-128FBP is identical to the Vista-128FB except for the addition *of the following features: Internet Communication Module, cancel verify, Fire verify, Quick exit, Group bypass, Arm faulted, Stay1, Stay2, Auto stay silent burg, and tamper option each zone.

The Vista-250FBP is identical to the Vista-128FBP except that it supports 16 vista key modules, 250 zones, 250 users, 1000 event log, and 500 vista card holders.

The FA1700C is the First alert version of the Vista-250FBP).

The Vista-250FBPADT is identical to the Vista-250FBP except for ADT defaults and the changes in hardware and software to support the AC communicator module, Model 472491D. The AC Communicator module, Model 472491D, can only be used as a dedicated AC telephone line mode. The Vista-250FBPADT is suitable for used with the Internet Communication Module, Models 7845i, 7845i-ENT and the Premises Cellular Control Channel Transceiver, Model 7845C. The Models 7845i, 7845i-ENT and 7845C device must either be mounted in the control panel cabinet, or within 3 feet of the panel cabinet with wiring routed in conduit.

All commercial fire alarm installations shall comply with the installation requirements contained in NFPA 72 - National Fire Alarm Code. All UL commercial burglar alarm installations shall comply with the installation requirements contained in UL Standard 681, Installation And Classification of Burglar And Holdup Alarm Systems. Each control unit is intended to be used with other separately Listed devices as indicated in the manufacturer's Installation Instructions. Two wire and four wire smoke detectors shall be installed as specified by the control unit's installation instructions. The units are intended for the applications described in Table I.

In order to provide fire protective signaling service, the Model Vista-128FB control units shall be provided with a backup signaling channel by means of the Model 7835CF cellular control channel transceiver, which is connected to the control unit by means of the data communication bus designed for this purpose.

The Model Vista-128FB unit is powered from a Class II limited energy plug-in type transformer and two sealed lead acid batteries provide 24-hour standby capacity.

The system shall be installed in accordance with the Manufacturer's Installation Instructions and the Canadian Electrical Code, Part I.

Model FA1600C is identical to Vista-100 except for model designation.

Regulatory Agency Statements

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UL Installation Requirements

The following requirements apply to both UL residential and UL commercial burglary installations:

1. All partitions must be owned and managed by the same person(s).
2. All partitions must be part of one building at one street address.
3. The audible alarm device(s) must be placed where it/they can be heard by all partitions.
4. The control cabinet must be protected from unauthorized access. This can be done by installing a tamper switch on the cabinet door (supplied with VISTA-128FBP/VISTA-250FBP) or by installing a UL Listed passive infrared detector positioned to detect cabinet access. Wire the selected device to any EOLR-supervised zone (Zone 1-8). Program this zone for day trouble/night alarm (type 05) or 24-hour audible alarm (type 07) response. The 24-hour alarm response must be used for multiple partitioned systems.
5. Remote downloading and auto-disarming are not UL Listed features.

UL864/NFPA Local Fire

Configure at least one Notification Appliance Circuit for supervision and wire polarized fire alarm indicators to it. Program this circuit for temporal sounding.

UL864/NFPA Central Station and Remote Station Fire

1. Size the backup battery for 24-hour standby (central station) or 60-hour standby (remote station) time.
2. For central station service, you may use the 7720ULF or 7920SE LORRAs alone, the main dialer with a LORRA, or the main dialer with the 5140DLM Backup Dialer Module. For remote station service, you must use the main dialer with the 5140DLM Backup Dialer Module.
3. When using the LORRA, connect its channel inputs to the VISTA-128FBP/VISTA-250FBP's fire alarm, fire supervisory (if used), and trouble triggers. Also connect its XMIT OKAY output to Input 1 on the VISTA-128FBP/VISTA-250FBP's J2 header. Program J2 Input 1 system Zone 973 for 24-hour trouble response (type 19) to send radio faults.
4. When the main dialer is used, enable it (field 3*30) and connect it to a telephone line. Assign a 24-hour trouble response (type 19) to system Zone 974 to enable main dialer supervision. The VISTA-128FBP/VISTA-250FBP will activate the trouble trigger when it detects a main dialer supervision fault.
5. When the backup dialer is used, install it on the VISTA-128FBP/VISTA-250FBP's PCB shield. Enable it (field 3*30) and connect it to a separate telephone line. Assign a 24-hour trouble response (type 19) to system Zone 975 to enable backup dialer supervision.
6. When the dialer is used, program it to send fire alarm, fire supervisory (if used), trouble, AC loss, low battery, normal dialer test, and off-normal dialer test reports. Field *27 must be set to "024" maximum so that test reports are sent at least once every 24 hours.
7. If a secondary number is programmed, set the maximum number of dialer re-tries to 3, 4, or 5 in field 3*21.

UL609 Grade A Local Mercantile Premises/Local Mercantile Safe & Vault

1. Use the VISTA-128FBP/VISTA-250FBP.
2. All zones must be configured for EOLR supervision (*41=0). Wireless sensors may not be used. If 4190WH RPMs are used, set field *24 to "0" to enable tamper detection.
3. Attach a door tamper switch (supplied) to the VISTA-128FBP/VISTA-250FBP cabinet backbox. For safe and vault installations, a shock sensor (not supplied) must also be attached to the backbox. (Also see *Mounting the Cabinet* in *SECTION 3: Installing the Control*)

4. Wire an ADEMCO AB12 Grade A Bell/Box to the Notification Appliance Circuit. Bell wires must be run in conduit. Program the Notification Appliance Circuit for 16 minutes or longer timeout and for confirmation of arming ding. (Also see *SECTION 3: Installing the Control*)
5. Wire the VISTA-128FBP/VISTA-250FBP tamper switch and AB12 Bell/Box tamper switches to any EOLR supervised zone (zones 1-8). Program this zone for day trouble/night alarm (type 05) or 24-hour audible alarm (type 07) response. The 24-hour alarm response must be used for multiple partitioned systems.
6. Entry delays must not exceed 45 seconds, and exit delays must not exceed 60 seconds.

UL365 Police Station Connected Burglar Alarm

Follow the instructions for UL609 local installations given above.

For Grade A Service:

- You may use the VISTA-128FBP/VISTA-250FBP dialer alone, or the 7720 Long Range Radio alone.
- When using the dialer, program it to send Burglary Alarm, Low Battery and Communicator Test reports. Field *27 must be set to "024" (or less) so that test reports are sent at least once every 24 hours.
- If using the 7720, connect it to the VISTA-128FBP/VISTA-250FBP burglary/audible panic alarm trigger.

For Grade AA Service:

- You must use a 7920SE Long Range Radio.
- Connect the 7920SE to the VISTA-128FBP/VISTA-250FBP burglary/audible panic alarm trigger.

UL611/UL1610 Central Station Burglary Alarm

Follow the instructions for UL609 local installations given above.

For Grade A Service:

- You must use the VISTA-128FBP/VISTA-250FBP's dialer with a 7720 Long Range Radio.
- Connect the control's burglary/audible panic alarm trigger (on J2 header) to the 7720. Program a 24-hour trouble response for Zone 974 to enable main dialer supervision. The VISTA-128FBP/VISTA-250FBP will activate the burglary/audible panic trigger when a corresponding alarm is detected, and will activate the trouble trigger when a main dialer fault is detected.
- Also connect the 7720's radio fault output to one of the VISTA-128FBP/VISTA-250FBP's EOLR-supervised zones (i.e., 1-8). Program this zone for a trouble by day/alarm by night (type 05) or a 24-hour alarm (type 07, 08) response to radio faults.
- Program the control's dialer to send Burglary Alarm, Trouble, Opening/Closing, and Low Battery reports.

For Grade AA Service:

Follow the instructions for Grade A service, except use the 7920SE in place of the 7720.

California State Fire Marshal (CSFM) Requirements.

24-hour backup: The California State Fire Marshal has published new regulations which require that all residential fire alarm control panels installed after June 30, 1993 must be provided with a backup battery which has sufficient capacity to operate the panel and its attached peripheral devices for 24 hours in the intended standby condition, followed by at least 4 minutes in the intended fire alarm signaling condition. Be sure to size the battery to meet this requirement.

FEDERAL COMMUNICATIONS COMMISSION (FCC) PART 15 STATEMENT

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

IN THE EVENT OF TELEPHONE OPERATIONAL PROBLEMS

In the event of telephone operational problems, disconnect the control panel by removing the plug from the RJ31X (CA38A in Canada) wall jack. We recommend that you demonstrate disconnecting the phones on installation of the system. Do not disconnect the phone connection inside the control panel. Doing so will result in the loss of your phone lines. If the regular phone works correctly after the control panel has been disconnected from the phone lines, the control panel has a problem and should be returned for repair. If upon disconnection of the control panel, there is still a problem on the line, notify the telephone company that it has a problem and request prompt repair service. The user may not under any circumstances (in or out of warranty) attempt any service or repairs to the system. It must be returned to the factory or an authorized service agency for all repairs.

FCC PART 68 NOTICE

This equipment complies with Part 68 of the FCC rules. On the front cover of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This equipment uses the following jacks:

An RJ31X is used to connect this equipment to the telephone network.

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact the manufacturer for repair and warranty information. If the trouble is causing harm to the telephone network, the telephone company may request that you remove the equipment from the network until the problem is resolved.

There are no user serviceable components in this product, and all necessary repairs must be made by the manufacturer. Other repair methods may invalidate the FCC registration on this product.

This equipment cannot be used on telephone company-provided coin service. Connection to Party Line Service is subject to state tariffs.

This equipment is hearing-aid compatible.

When programming or making test calls to an emergency number, briefly explain to the dispatcher the reason for the call. Perform such activities in the off-peak hours, such as early morning or late evening.

CANADIAN EMISSIONS STATEMENTS

This Class B digital apparatus complies with Canadian ICES-003

NOTICE

The Industry Canada Label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may cause the telecommunications company to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact an appropriate electric inspection authority, or electrician, as appropriate.

NOTICE: The **Ringer Equivalence Number** (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

AVIS

L'étiquette d'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur. Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, de lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

Avertissement : L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

AVIS : L'indice d'équivalence de la sonnerie (IES) assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface. La terminaison d'une interface téléphonique peut consister en une combinaison de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5.



NOT to be distributed outside of FMGlobal except by CUSTOMER.

APPROVAL REPORT

VISTA-128FBP and VISTA-250FBP Fire Alarm Controls for Local Protective Signaling, Remote Signaling, and Central Station Signaling

Prepared for:

**Alarm Device Manufacturing Company
165 Eileen Way
Syosset, NY 11791**

**Project ID. 3015009
Class 3010
Date: January 10, 2003**

FM Approvals
1151 Boston-Providence Turnpike
P.O. Box 9102
Norwood, MA 02062

An  Global Enterprise

**VISTA-128FBP and VISTA-250FBP Fire Alarm Controls for
Local Protective Signaling, Remote Signaling,
and Central Station Signaling**

January 10, 2003

From

**Alarm Device Manufacturing Company
165 Eileen Way
Syosset, NY 11791**

I INTRODUCTION

- 1.1 Alarm Device Manufacturing Company requested an Approval examination of the VISTA-128FBP and the VISTA-250FBP Fire Alarm Controls for Local, Remote and Central Station Signaling. The controls are similar to the previously Approved VISTA-100 (J.I. 0B7A0 .AY) and VISTA-128 FB (Project I.D. 3003952) models.
- 1.2 The modules tested with these controls are:
- 6160 Remote keypad for local control and annunciation.
- 5140 DLM Backup Dialer
- 1.3 The following devices have already been examined with earlier systems, under previous editions of ANSI/NFPA 72 but have been tested under this examination to the 1999 edition of ANSI/NFPA 72:
- | | | |
|-----------|----------------------|---|
| -5140 DLM | Backup Dialer | Previous examination: Project I.D.3003952 |
| -7845C | Cellular transceiver | Previous examination: Project I.D.3009306 |
- 1.4 The following devices were used to conduct some of the testing associated with this examination and are included in the Approval listing:
- | | |
|---|----------------------|
| - ADEMCO 685 Digital Alarm Communication Receiver | Project I.D. 3015170 |
| Firmware revision 5.1 | |
| - ADEMCO MX 8000 Digital Alarm Communication Receiver | Project I.D. 3014904 |
- 1.5 This Report may be freely reproduced only in its entirety and without modification.
- 1.6 The standard used to evaluate and examine the equipment included in this report is the National Fire Protection Association, National Fire Alarm Code, (ANSI/NFPA 72, 1999 edition). Previous testing, specifically relating to power supply supervision, was done to the 1993 edition. See Remarks, paragraph 5.3.
- 1.7 **Listings:** See Appendix I

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II DESCRIPTION

- 2.1 The following paragraphs and the attached Alarm Device Manufacturing Company literature describe the VISTA-128 FBP and VISTA-250FBP which are similar to the previously Approved VISTA-128FB. Differences are in the firmware, which required confirmation of normal operating characteristics. The manufacturer has made available all necessary component information and specification sheets have been examined and are on file at FM Approvals.
- 2.2 The subassemblies of the VISTA-100 are unchanged in their construction and application when used in the VISTA-128FBP and the VISTA-250FBP. Previous testing done under J.I. OB7A0.AY is considered sufficient to maintain Approval.
- 2.3 The subassemblies of the VISTA-128FB are unchanged in their construction and application when used in the VISTA-128FBP and the VISTA-250FBP. Previous testing done under Project I.D. 3003952 is considered sufficient to maintain Approval.
- 2.4 The VISTA-128FBP and VISTA-250FBP (P for “plus”) have three features, in addition to an expanded number of zones, from 128 to 242, for the VISTA-250FBP the VISTA 128 FB did not have.
 - 2.4.1 The Alpha Pager Module and Panel Linking Module accessories provide two features intended for home automation use and will not be examined.
 - 2.4.2 The third feature is fire with verification. An initial alarm will cause a seven second power reset. A subsequent alarm within 90 seconds will result in a fire alarm. A zone configured in this manner is always active and cannot be bypassed.
- 2.5 The 1451 Power supply does not fulfill all battery supervision functions required under ANSI/NFPA 72 1999. The requirements of the 1993 version of ANSI/NFPA 72 will apply.
- 2.6 Central station signaling applications require 24 hour battery capacity for the 24 Vdc secondary supply. Remote station signaling applications require 60 hr battery capacity for the 24V dc secondary.
- 2.7 The 6160 keypad provides the operator interface to the fire alarm control. A minimum of one is required to provide the necessary audible and visual alarm and trouble indications. Keypad port one is electrically isolated from keypad port two. For multi-keypad device installations the primary indicator must be within three feet of the control cabinet and be connected to a dedicated keypad port, either one or two. No other keypad devices may be connected to the primary indicator’s keypad port.

III EXAMINATIONS AND TESTS

- 3.1 A sample of the VISTA250 FBP, powered by the 1451 power supply, using the 6160 keypad as an operator interface was submitted for examination and testing. The sample was considered to be representative of the product line and was examined, tested, and compared to the manufacturer's drawings. All data is on file at FM Approvals along with other documents and correspondence applicable to this program.
- 3.2 **Normal Operation Testing** - Each of the controls was evaluated and proper operation under normal ambient conditions verified.

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- 3.3 **Alarm Signals** –An alarm condition is indicated by an LED on the keypad and a zone description on the LCD on the keypad. Notification appliances and the panel’s audible sounder can be silenced with the push button on the keypad while maintaining the visible alarm indications. Entering an access code on the keypad enables the alarm silence push button. A silenced alarm will resound upon receipt of a new alarm condition on a different circuit or addressable device on the same circuit.
- 3.4 **Supervisory Signals** – An LED and LCD display on the keypad indicate a supervisory condition. The supervisory/trouble signal audible tone can be silenced by the acknowledge button on the keypad while maintaining the visible supervisory indication until the source of the supervisory condition is removed. Entering an access code on the keyboard enables the “acknowledge” push-button.
- 3.5 **Trouble Signals** –An LED and LCD display on the keypad control indicate a trouble condition. The distinctive trouble audible tone can be silenced by the acknowledge button on the front panel. Entering an access code on the keyboard enables the “acknowledge” push-button. An acknowledged, unresolved, trouble resounds after a programmable delay of between one and twenty-four hours.
- 3.6 **Power Supply Supervision** – Proper operation of the ac power failure and battery failure was verified.
- 3.6.1 Transfer to secondary power was accomplished automatically in less than 30 seconds upon loss of primary power to the system. A trouble was annunciated on ac power failure audibly with a “fast” (~5 Hz) beep, and visibly on the LCD and LED. Transfer to secondary occurred at 102 Vac. The equipment operated properly before and after transfer to battery power.
- 3.6.2 The standby battery is monitored for presence of voltage at the point of connection. Once the battery was disconnected, a battery trouble condition was annunciated within 200 seconds as required.
- 3.6.3 The charging circuit for the batteries is not supervised for proper operation. This is acceptable under NFPA 72 1993 edition requirements.
- 3.7 **Signaling Line Circuits – Initiating Device Circuits –Notification Appliance Circuits** – No testing required as the circuits remain the same as previously examined (see 2.2 and 2.3).
- 3.8 **Voltage Variations** - Normal system operation was verified over a voltage range of between the transfer voltage and 110% of the primary voltage, 102 V ac - 132 V ac and 85% to 110% of the battery voltage 10.2 V dc – 13.2 dc, supplies at minimum (standby) and maximum (alarm) loads. Normal function over all voltage ranges was confirmed.
- 3.9 **Environmental conditioning** - Tests were conducted that verified proper operation of input and output devices in standby, alarm, and trouble modes after exposure to a minimum of four hours at an ambient temperature of 32°F (0°C), four hours at an ambient of 120°F (49°C), and twenty-four hours at an ambient of 100°F (38°C) and a relative humidity of 90%. The equipment performed properly at each setting when tested for normal operation by initiating alarm and trouble conditions.
- 3.10 **DACT Protective Signaling Test** -Tests were conducted to verify proper operation of the main dialer and the 5140 DLM Backup Dialer. Proper operation of the dialers was confirmed by the receiver displaying all required alarm and trouble conditions indicated on the alarm control.

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- 3.10.1 Primary power failure signal was tested at both six and twelve hour settings. This was considered acceptable as 25% and 50% of the 24 hours required for central station signaling.
- 3.10.2 Both dialers obtained a dial tone, contacted the DACT and transmitted a signal within 90 seconds of an alarm signal at an initiating device, as required.
- 3.10.3 The main dialer and the 5140 DLM Backup dialer connect to two separate telephone lines. The primary line and main dialer is used first. A test signal is sent on the primary line once a day. This was considered acceptable.
- 3.10.4 The main dialer and the 7845C DLM Backup dialer connect to two separate telephone lines. The primary line and main dialer is used first. A test signal is sent on the primary line once a day. This was considered acceptable.
- 3.10.5 Failure of communication means sends a trouble signal on the other connection in less than one minute. This is less than the four minutes required. Failure of both communication means results in a local trouble indication. This was considered acceptable.
- 3.11 **Special System Feature-**
- 3.11.1 **Fire with Verification-** An initiating device zone configured for fire with verification signaled an alarm condition in under 10 seconds as compared to a "normal" zone which signaled an alarm in approximately 1 second. This was considered acceptable.
- 3.12 **Protective Grounding** - Accessible conductive parts such as the outside of the enclosure are all connected to a properly identified positive ground terminal by means of a 0.5 ohm or less resistive path.
- 3.13 **Electrical Shock Examination-** Access to the primary power supply inputs was suitably restricted by a tool secured enclosure.
- 3.14 **Vibration, Battery Discharge/charge Test , Initiating device compatibility, Equipment Load Rating, Battery Circuit Reverse Polarization, Transformer Failure, Transients, RFI Susceptibility-** Examination of the construction and documentation of the VISTA 128FBP and VISTA-250 FBP in addition to the normal operations testing demonstrated the controls can be considered modifications of the previously examined VISTA 100 and VISTA128FB, eliminating the need to perform these tests on unmodified equipment.

IV MARKING

The following information appears on the apparatus identified in Section 1.2:

- Manufacturer's name and manufacturing location.
- Type number and date code
- Control Drawing Reference(schematic number printed on PCB)
- The FM Approvals mark

V REMARKS

- 5.1 Installations shall comply with the manufacturer's instruction manual.

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- 5.2 An Approval examination including programmable, modular equipment such as this can only evaluate typical configurations. Although all components have been tested, it is beyond the scope of such an examination to test all possible configurations. It is necessary; therefore, that those responsible for the design and acceptance of specific installations take special care to verify that their system is configured to operate properly for the required performance of that installation.
- 5.3 The 1451 Power supply does not fulfill all battery supervision functions required under ANSI/NFPA 72 1999. Therefore the ANSI/NFPA 72 1993 requirements will apply.
- 5.4 The low battery alarm sent by the DLD after either 6 or 12 hours can be considered as transmitting when the battery level for central station service has been reduced by 25 to 50 %, considering 24 hours to represent 100%. This is acceptable even if the battery is intended for longer operation as for a remote station, requiring a 60-hour battery life, as this will still meet the intent of NFPA 72 of signaling a low battery condition prior to battery voltage loss.

VI FACILITIES AND PROCEDURES AUDIT

The manufacturing sites in Syosset, NY and Juarez, Mexico are subject to follow-up audit inspections. The facilities and quality control procedures in place have been found to be satisfactory to manufacture product identical to that examined and tested as described in this report.

VII MANUFACTURER'S RESPONSIBILITIES

- 7.1 As part of the listing requirements, FM Approvals requires assurance that subsequent systems produced will present the same quality and reliability as the system examined. The manufacturer shall maintain a Quality Assurance Program, which includes as a minimum: incoming, in-process, and final inspection and testing; equipment calibration; and drawing change control. The specific procedures used to control quality are best determined by the manufacturer.
- 7.2 The manufacturer shall provide installation, operating, and maintenance manual(s) with each system.
- 7.3 On 100% of production, the VISTA 128 FBP and VISTA 250 FBP shall be tested by Alarm Device Manufacturing Company (ADEMCO) for continuity of the protective grounding system.
- 7.4 The VISTA 128 FBP and VISTA 250 FBP shall be dielectric tested on 100% of production by the Alarm Device Manufacturing Company. The insulation between accessible conductive parts and the power supply input connections shall withstand for one minute, with no insulation breakdown, the application of 1000 Vac (1400 V dc) with respect to the protective ground. Alternatively, a test potential of 1200 Vac (1700 V dc) may be applied for at least one second. **WARNING:** The dielectric test required may present a hazard of injury to personnel and/or property and should only be performed under controlled conditions, and by persons knowledgeable of the potential hazards of such testing to minimize the likelihood of shock and/or fire.

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VIII DOCUMENTATION

The following drawings describe the equipment and are filed under Project I.D. 3015009.

Drawing No	Revision	Drawing Title
K0376	8/02	Installation and Set up Guide
SAFA1700C	A	Bill of Matl., Assy, PCB, First Alert 1700C
SAVIS100-23	A	Schematic., Sub Assy, PCB, VISTA128/250FBP
SAVIS100-23	A	Layout., Sub Assy, PCB, VISTA128/250FBP
SAVIS100-23	A	Bill of Matl., Sub Assy, PCB, VISTA128/250FBP
SAVIS128FBP	A	Bill of Matl., Assy, PCB, VISTA128FBP
SAVIS250FBP	A	Bill of Matl., Assy, PCB, VISTA250FBP

IX CONCLUSION

The equipment described in 1.6 meets FM Approvals requirements. Approval is effective when the Approval Agreement is signed and received by FM Approvals.

EXAMINATION AND TESTING BY: W. Kessler

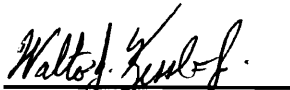
PROJECT DATA RECORD: 3015009

APPENDIX I: *Approval Guide*, a publication of FM Approvals, Listings

APPENDIX II: VISTA-128FBP/VISTA-250 FBP Installation and Setup Guide K0376 8/02
Section 1

REPORT BY:

REPORT REVIEWED BY:



Walter J. Kessler, Jr.

Engineer
Systems



P. K. Schoenheiter

Senior Engineer
Systems

APPENDIX I

Listings

Local Protective Signaling

Ademco ~~VISTA-128FB~~, VISTA-32FB programmable control panel (firmware Versions ~~WAVIS128-12.1FB, Rev. 2.1, for VISTA-128FB and WAVIS32-11FB, Rev. 1, for VISTA-32FB~~). A minimum of one 6139R keypad is required. Provides eight Class B (Style B) initiating device circuits, two 12 V dc Class B (Style Y) notification appliance circuits. Polling loop circuit for zone expansion uses following devices: 4297 polling loop extender, 4101SN, 4190SN, 4190WH, 4208U, 4209U zone expanders, 4208SNF zone expander/converter, 4192SD photoelectric type, 4192SDT photoelectric type with 135°F (37°C) heat, and 4192CP ionization type addressable smoke detectors. 4204 relay module; 4204CF relay module provides two Class B (Style Y) notification appliance circuits. Compatible with the following Approved System Sensor two-wire detectors: Models 1151 with B110LP base, 1400, 1451 with B401B base, 1451DH with DH400 base ionization smoke; 2151 with B110LP base, 2400, 2451 with B401B base photoelectric smoke; 2400TH, 2451TH with B401B base photoelectric smoke with heat. The VISTA-128FB, -32FB are compatible with the 5808 LST Photoelectric Smoke/Heat Detector/Transmitter using the 5881ENHC receiver connected using the keypad port. ~~Optional PS24 power supply module (used only with VISTA-128FB) provides one 24 V dc Class B (Style Y) notification appliance circuit.~~ Primary power 120 V ac, 12 V dc batteries used with 12 to 34.4 AH capacity to provide 24 or 60 hours of emergency operation. (See also REMOTE STATION SIGNALING SYSTEMS and CENTRAL STATION SIGNALING SYSTEMS.)

~~Ademco VISTA-128FB, VISTA-32FB programmable control panel (firmware Versions WAVIS128-12.1FB, Rev. 2.1, for VISTA-128FB and WAVIS32-11FB, Rev. 1, for VISTA-32FB).~~ **Ademco VISTA-128FBP, VISTA-250FBP programmable control panel (firmware Versions WAVIS128FBP Rev. 10 for VISTA-128FBP and WAVIS250FBP, Rev. 10, for VISTA-250FBP).** A minimum of one 6139R **or 6160** keypad is required. Provides eight Class B (Style B) initiating device circuits, two 12 V dc Class B (Style Y) notification appliance circuits. Polling loop circuit for zone expansion uses following devices: 4297 polling loop extender, 4101SN, 4190SN, 4190WH, 4208U, 4209U zone expanders, 4208SNF zone expander/converter, 4192SD photoelectric type, 4192SDT photoelectric type with 135°F (37°C) heat, and 4192CP ionization type addressable smoke detectors. 4204 relay module; 4204CF relay module provides two Class B (Style Y) notification appliance circuits. Compatible with the following Approved System Sensor two-wire detectors: Models 1151 with B110LP base, 1400, 1451 with B401B base, 1451DH with DH400 base ionization smoke; 2151 with B110LP base, 2400, 2451 with B401B base photoelectric smoke; 2400TH, 2451TH with B401B base photoelectric smoke with heat. The VISTA-128FBP, -250FBP are compatible with the 5808 LST Photoelectric Smoke/Heat Detector/Transmitter using the 5881ENHC receiver connected using the keypad port. ~~Optional PS24 power supply module (used only with VISTA-128FB)~~ provides one 24 V dc Class B (Style Y) notification appliance circuit. Primary power 120 V ac, 12 V dc batteries used with 12 to 34.4 AH capacity to provide 24 or 60 hours of emergency operation. (See also REMOTE STATION SIGNALING SYSTEMS and CENTRAL STATION SIGNALING SYSTEMS.)

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Remote Signaling

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Ademco ~~VISTA-128FB, VISTA-32FB~~ **programmable control panel (firmware Versions WAVIS128-12.1FB, Rev. 2.1, for VISTA-128FB and WAVIS32-11FB, Rev. 1, for VISTA-32FB).** A minimum of one 6139R keypad is required. Optional 7845C cellular transceiver (firmware version 1.2) set for ECP mode may be used as secondary communications with central station through AlarmNet bridging point. Primary power 120 V ac. ~~Optional PS24 power supply module for VISTA-128FB only.~~ 12 V dc batteries with up to 34.4 AH capacity are used to provide required 60 hours of emergency operation. (See also LOCAL PROTECTIVE SIGNALING and CENTRAL STATION SIGNALING SYSTEMS)

Ademco ~~VISTA-128FB, VISTA-32FB~~ **programmable control panel (firmware Versions WAVIS128-12.1FB, Rev. 2.1, for VISTA-128FB and WAVIS32-11FB, Rev. 1, for VISTA-32FB).** **Ademco VISTA-128FBP, VISTA-250FBP programmable control panel (firmware Versions WAVIS128FBP Rev. 10 for VISTA-128FBP and WAVIS250FBP, Rev. 10, for VISTA-250FBP).** A minimum of one 6139R **or 6160** keypad is required. Optional 7845C cellular transceiver (firmware version 1.2) set for ECP mode may be used as secondary communications with central station through AlarmNet bridging point. Primary power 120 V ac. Optional PS24 power supply module for VISTA-128FB only. 12 V dc batteries with up to 34.4 AH capacity are used to provide required 60 hours of emergency operation. (See also LOCAL PROTECTIVE SIGNALING and CENTRAL STATION SIGNALING SYSTEMS)

Central Station

Ademco ~~VISTA-128FB, VISTA-32FB~~ **programmable control panel (firmware Versions WAVIS128-12.1FB, Rev. 2.1, for VISTA-128FB and WAVIS32-11FB, Rev. 1, for VISTA-32FB).** A minimum of one 6139R keypad is required. Optional 7845C cellular transceiver (firmware version 1.2) set for ECP mode may be used as secondary communications with central station through AlarmNet bridging point. Primary power 120 V ac. Optional PS24 power supply module for VISTA-128FB only. 12 V dc batteries with up to 34.4 AH capacity are used to provide required 24 hours of emergency operation. ~~The VISTA-128FB is compatible with the Ademco 685 DACR.~~ (See also LOCAL PROTECTIVE SIGNALING and REMOTE STATION SIGNALING SYSTEMS)

Ademco VISTA-128FBP, VISTA-250FBP programmable control panel (firmware Versions WAVIS128FBP Rev. 10 for VISTA-128FBP and WAVIS250FBP, Rev. 10, for VISTA-250FBP). ~~Ademco VISTA-128FB, VISTA-32FB~~ **programmable control panel (firmware Versions WAVIS128-12.1FB, Rev. 2.1, for VISTA-128FB and WAVIS32-11FB, Rev. 1, for VISTA-32FB).** A minimum of one 6139R **or 6160** keypad is required. **Installation of a 5140 DLM Back up dialer is required.** Optional 7845C cellular transceiver (firmware version 1.2) set for ECP mode may be used as secondary communications with central station through AlarmNet bridging point. Primary power 120 V ac. Optional PS24 power supply module for VISTA-128FB only. 12 V dc batteries with up to 34.4 AH capacity are used to provide required 24 hours of emergency operation. The VISTA-128FB is compatible with the Ademco 685 **and the MX8000** DACR_s. (See also LOCAL PROTECTIVE SIGNALING and REMOTE STATION SIGNALING SYSTEMS)

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APPENDIX II:

VISTA-128FBP/VISTA-250 FBP Installation and Setup Guide K0376 8/02 Section 1

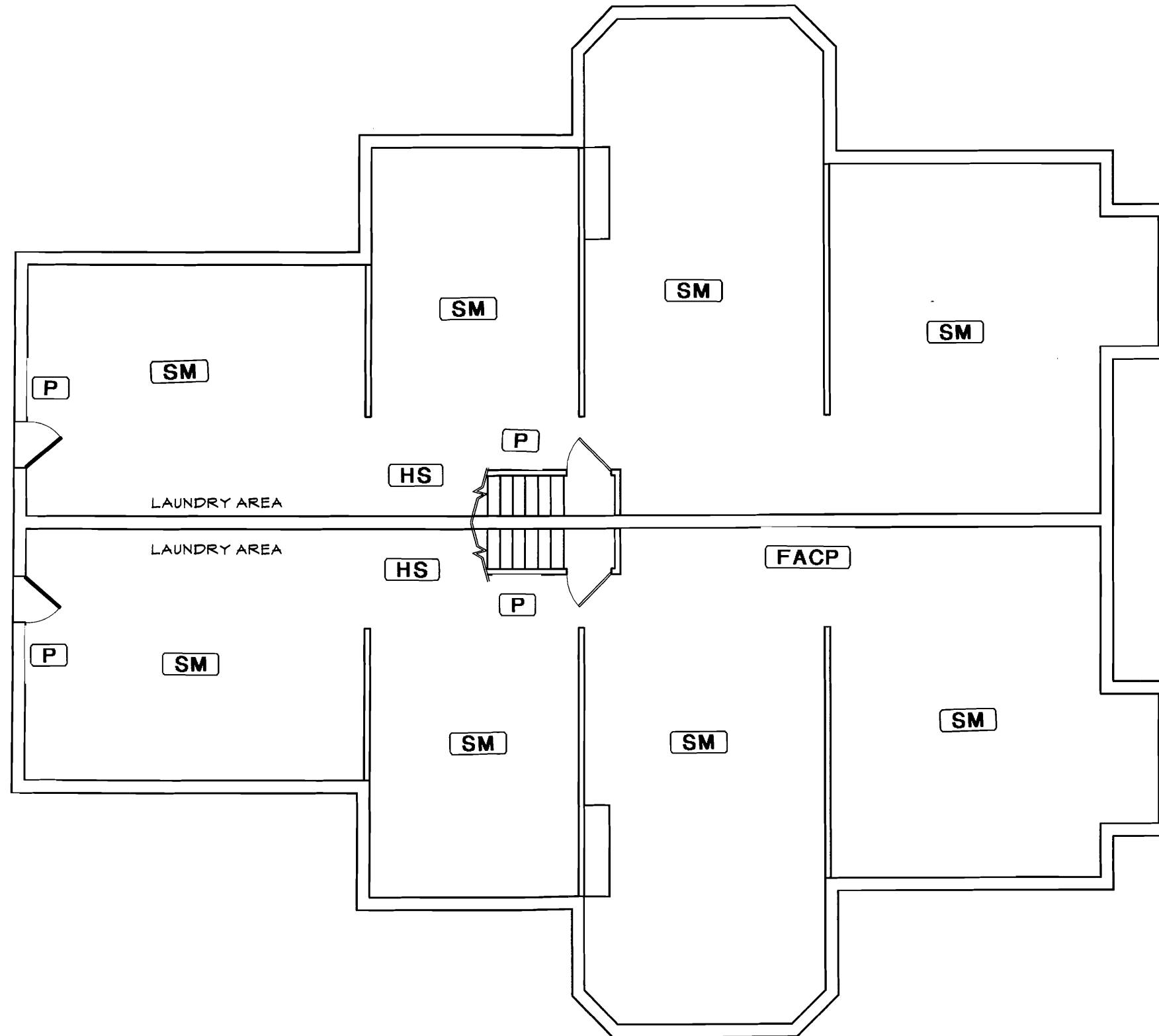
SM--SMOKE DETECTOR

H--HEAT DETECTOR

HS--HORN STROBE

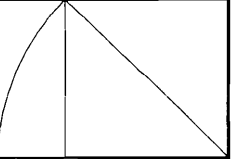
P--PULL STATION

MH--MINI HORN



463 CUMBERLAND AV.
 PORTLAND, MAINE

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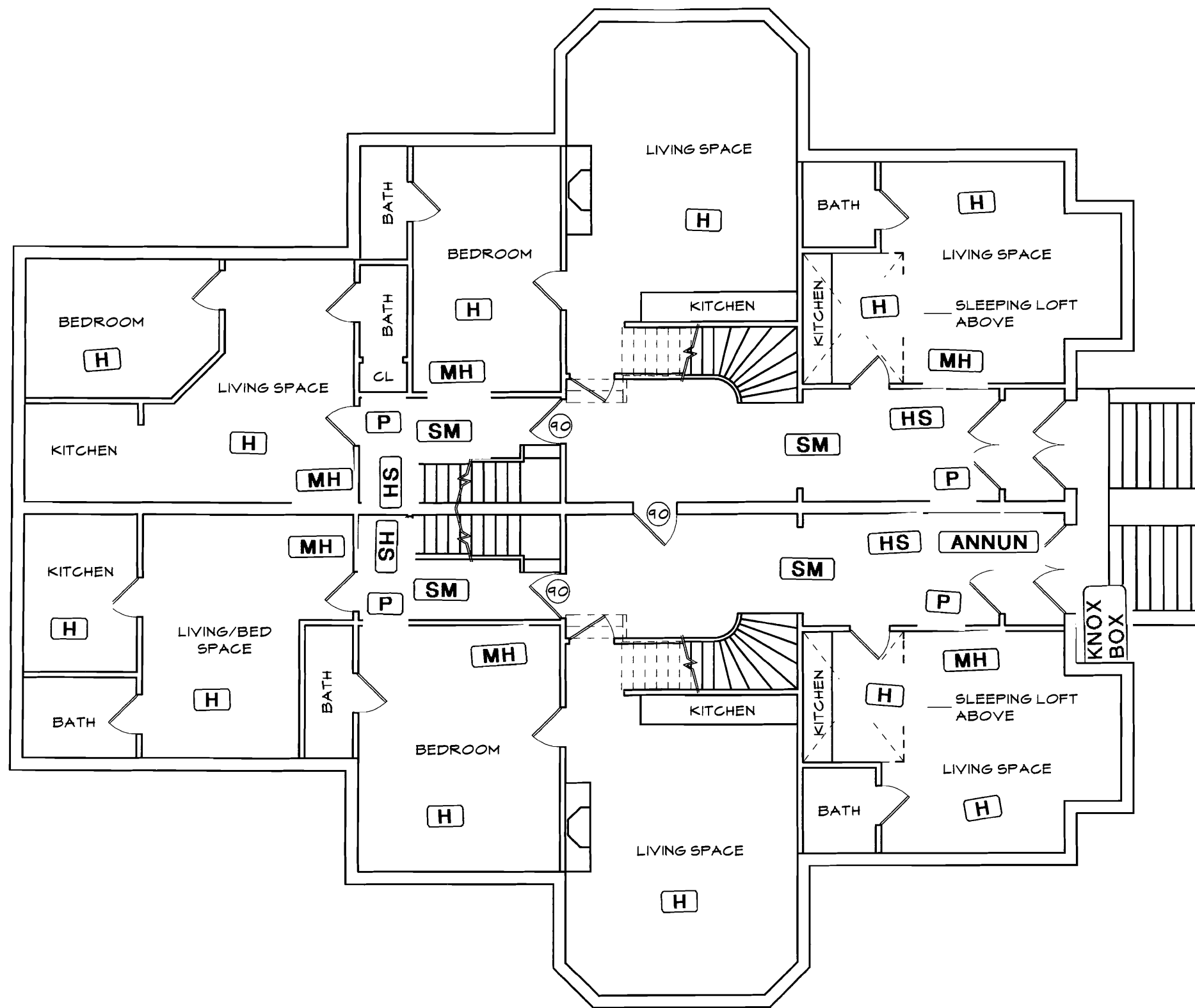
19 Commercial St
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 207-775-2696
 www.whipplecallender.com

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 CHECKED BY: J.A.D.
 DRAWN BY: J.W.B.
 JOB:
 SHEET TITLE:

1
 A 1.1

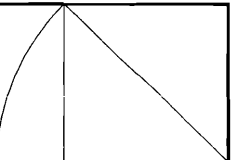
BASEMENT PLAN
 SCALE: 1/8" = 1'-0"

A1.1



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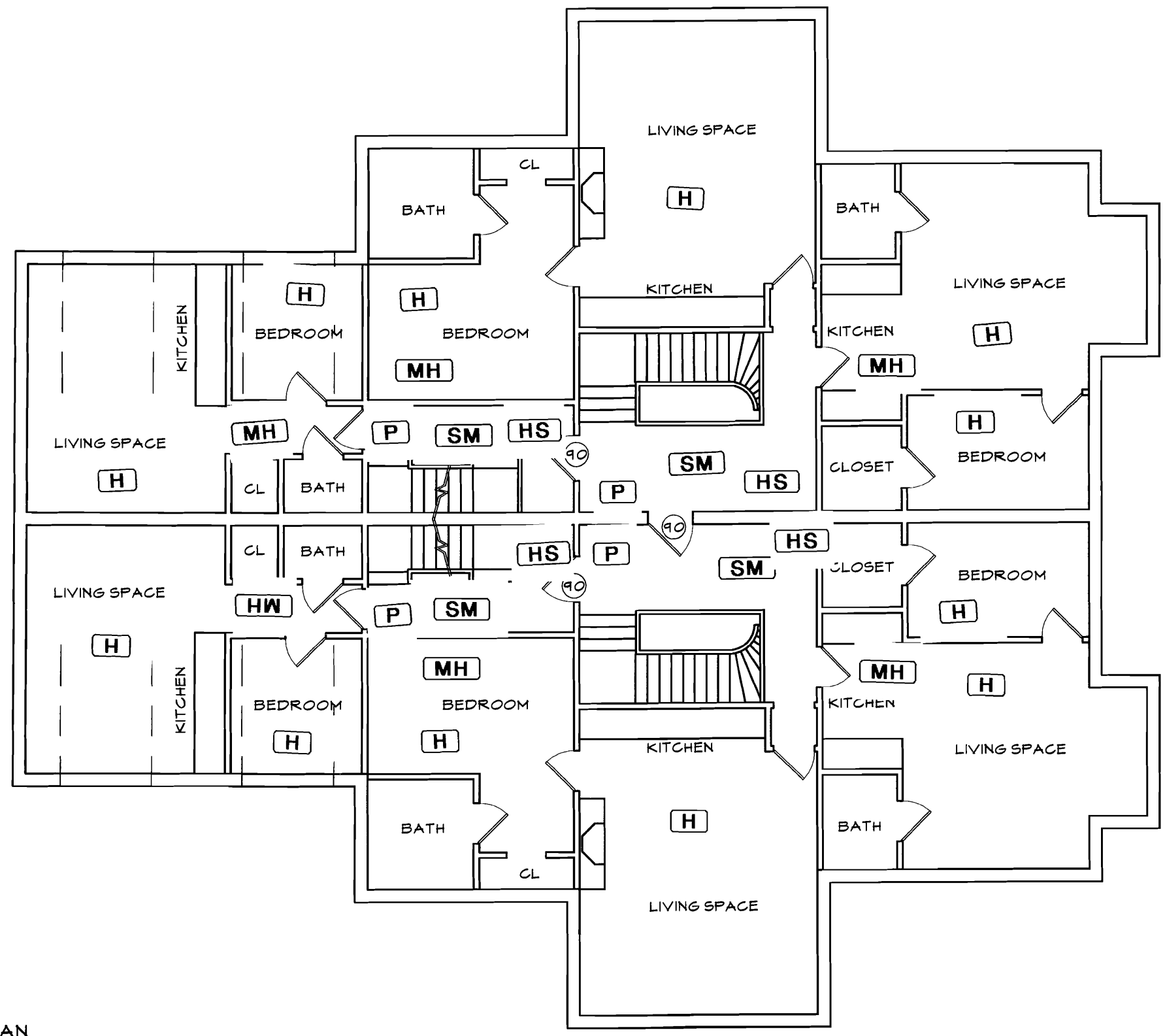


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A1.2

1 FIRST FLOOR PLAN
 A1.2 SCALE: 1/8" = 1'-0"



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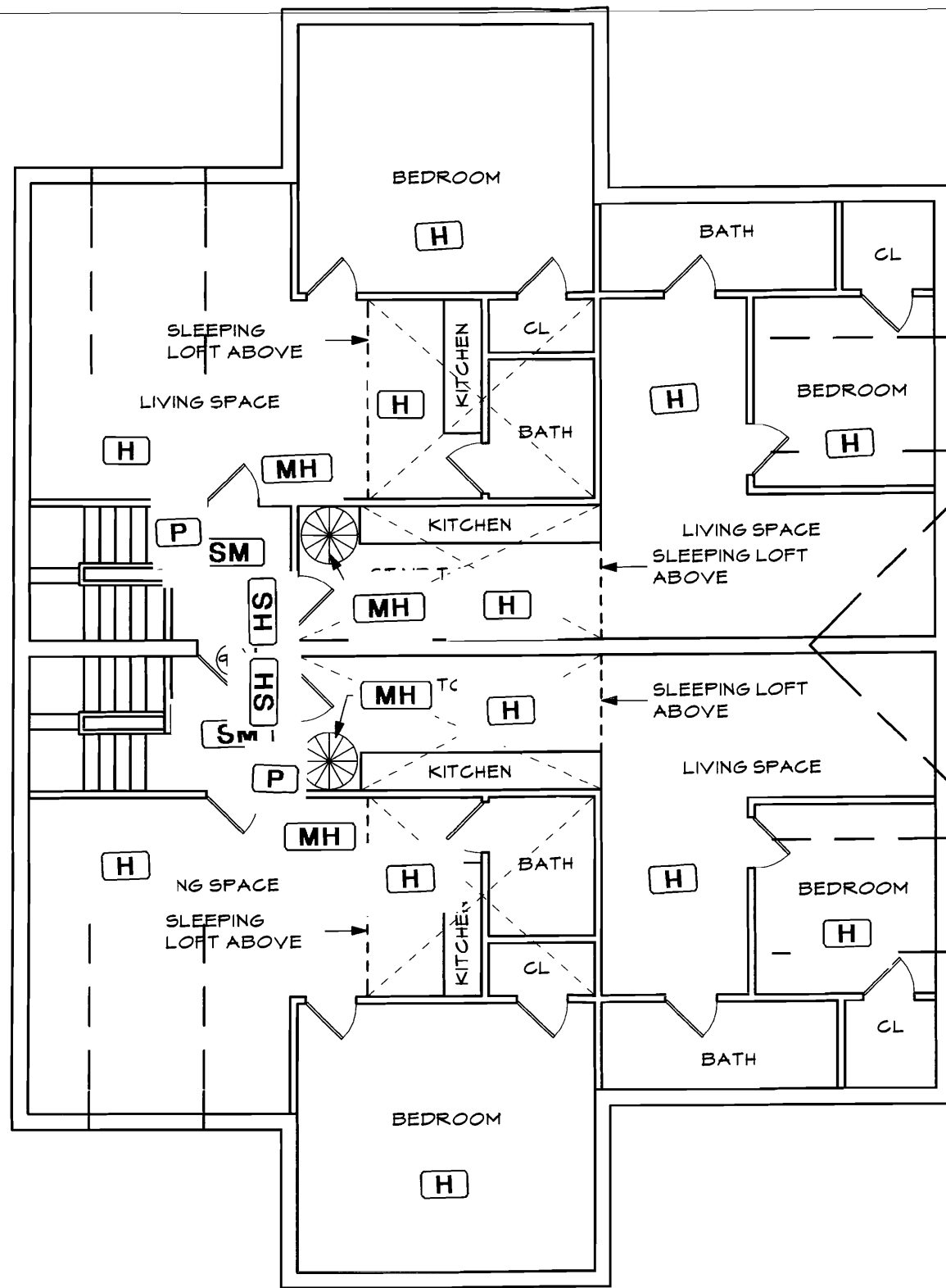
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A1.3

1 SECOND FLOOR PLAN
 A1.3 SCALE: 1/8" = 1'-0"



1 THIRD FLOOR PLAN
 A1.4 SCALE: 1/8" = 1'-0"

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A1.4