

**NOVATREND ENGINEERING  
GROUP LTD.**

THIS REVIEW IS MADE ONLY TO VERIFY CONFORMITY WITH THE GENERAL DESIGN CONCEPT AND DOES NOT IMPLY APPROVAL OF THE DETAIL DESIGN INHERENT IN THE SHOP DRAWINGS, RESPONSIBILITY FOR WHICH REMAINS WITH THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ERRORS & OMISSIONS ON THE SHOP DRAWINGS, FOR INFORMATION RELATING SOLELY TO FABRICATION PROCESSES & CONSTRUCTION TECHNIQUES AND FOR MEETING ALL CONTRACTUAL REQUIREMENTS INCLUDING CO-ORDINATION OF FIELD DIMENSIONS & CO-ORDINATION OF THE WORK OF ALL HIS SUB-TRADES.

**DRAWING SUBMITTAL**

SQ: Alexandra Park  
38 Cameron Street Block 2  
Toronto Ontario  
  
Nova Trend Engineering  
Jay Electric  
Elio Abbondandolo  
  
DATE: Feb 20, 2015

- REVIEWED       REVIEWED AS NOTED  
 REVISE & RESUBMIT       REJECTED

Kevin Chen  
REVIEWED BY

2015-03-26  
- Fire Alarm / EVC System  
DATE  
- Building Trouble Panel

**SYSTEMS**

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<input checked="" type="checkbox"/>	Reviewed
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<input type="checkbox"/>	Resubmit
DATE	REVIEWED BY
Mar. 09, 2015	Gary R Beer

Coord. Sequence of Operation as indicated on electrical design drawings, the Fire Code Consultants Report and with the Sequence of Operation as noted on the Shop Drawings.

Smoke alarm back up battery must meet the requirements as specified in Section 3.2.4.22, 5(c) of the 2012 OBC -

# ADDRESSABLE SYSTEM DETAILS

SQ. Alexandra Park

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Mar. 09, 2015	<i>Gary R Beer</i>

  X   SINGLE STAGE ZONED SUPERVISED

       TWO STAGE . ZONED SUPERVISED

       ALL CALL VOICE EVAC SYSTEM (INTERGRATED)

  X   DUAL CHANNEL VOICE EVAC SYSTEM (INTERGRATI

       MODIFIED TWO STAGE (AS PER SPECS.)

Not Reviewed for Quantities

  X   POWER SUPPLY        6AH POWER

  X   12AH POWER SUPPLY

  X   BATTERY CHARGER & STANDBY - SEALED MAINTENANCE FREE GELL CELL BATTERIES

  X   AUXILLARY DISCONNECT SWITCH

  X   ANALOG LOOPS (EACH LOOP SUPPORTS 99 SENSORS & 99 MODULES)        8        LOOPS REQUIRED

       ZONE DESIGNATIONS (DETAILS TO FOLLOW) Alarm/Sup        240

  X   SIGNAL CIRCUITS ---        HORN CIRCUIT(S) REQUIRED

       7 STROBE CIRCUIT(S) REQUIRED

  X   RELAY CONTACTS ---        30 ADDRESSABLE(S) RELAYS REQUIRED

       8 IN PANEL HARDWIRED RELAYS REQUIRED

  X   SPEAKER CIRCUITS ---        34 15 WATT SPEAKER CIRCUITS REQUIRED

       4 30 WATT SPEAKER CIRCUITS REQUIRED

       60 WATT SPEAKER CIRCUITS REQUIRED

  X   FIREMAN'S HANDSET CIRCUITS ---        17 CIRCUIT(S) REQUIRED

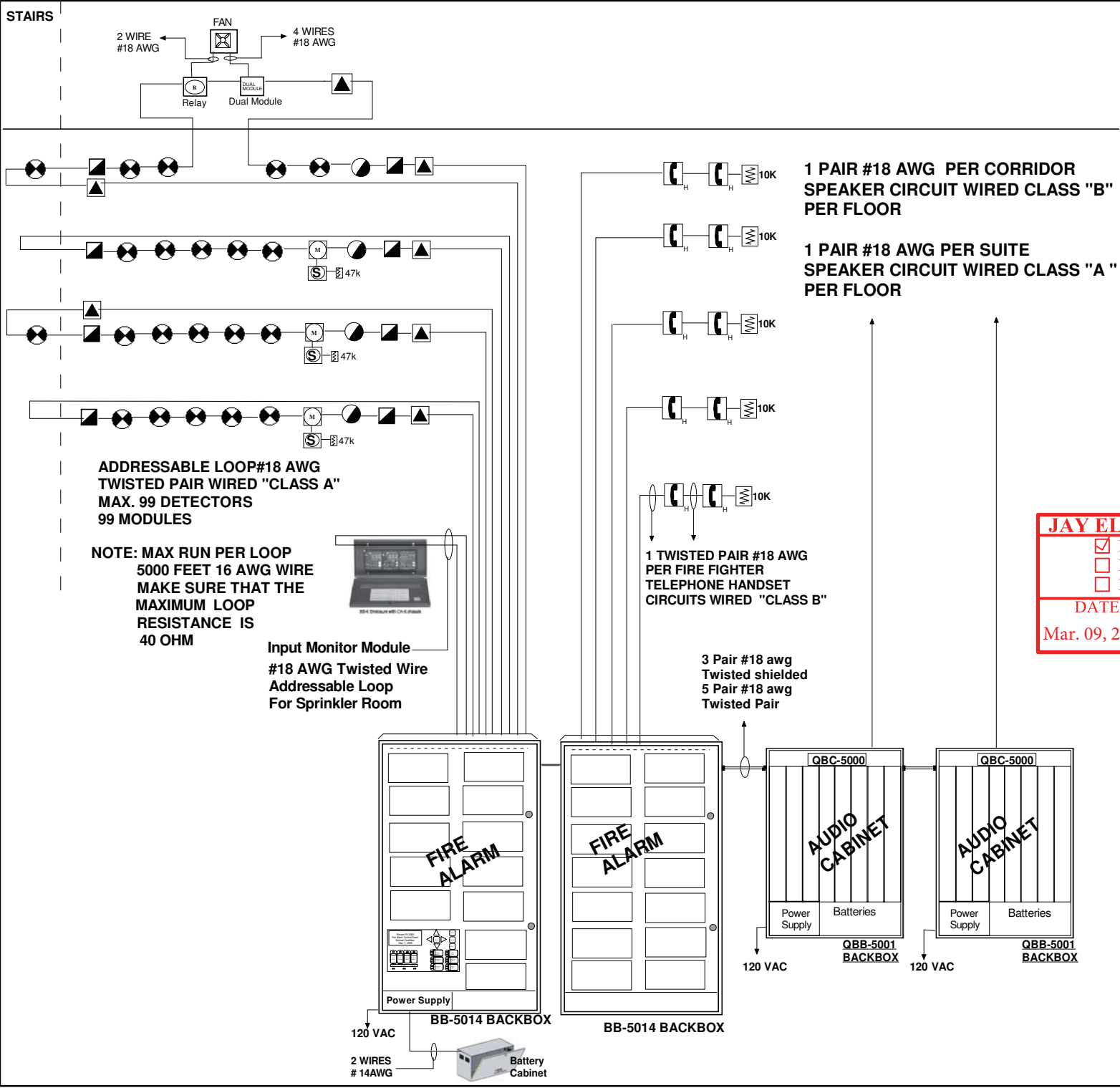
  X   FAN HAND/OFF/AUTO CIRCUITS ---        10 SWITCH(ES) REQUIRED

       REMOTE ANNUNCIATORS ---        ANNUNCIATOR(S) REQUIRED

       CUSTOM GRAPHIC DISPLAY (DETAILS TO FOLLOW)

       REMOTE TROUBLE INDICATORS ---        RTI(S) REQUIRED

       AUXILLARY BOOSTER POWER SUPPLY ---        PANEL(S) REQUIRED



**SYMBOL LEGEND**

	Handsets
	Pull station
	Smoke Detector
	Heat Detector
	Flow Or Supervisory Switch
	Monitor Module
	Addressable Loop Isolator
	Speaker
	Speaker/Strobe
	End Of Line Plate
	Trouble Indicator

**NOTE:**

8 INCH CONDUIT REQUIRED BETWEEN QBB-5001 CABINETS. MAX DISTANCE BETWEEN QBB-5001 CABINET IS 8 INCHES.

EACH AMPLIFIER CABINET TO BE POWERED BY SEPARATE 15 AMP BREAKER

NO CONDUIT ENTRY THROUGH THE BOTTOM OF ANY BACK BOX USE KNOCKOUTS PROVIDED ON THE TOP AND SIDES OF THE BACK BOX

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**MIRCOM/Gardia** 25 Interchange Way  
Vaughan, Ontario L4K 5W3

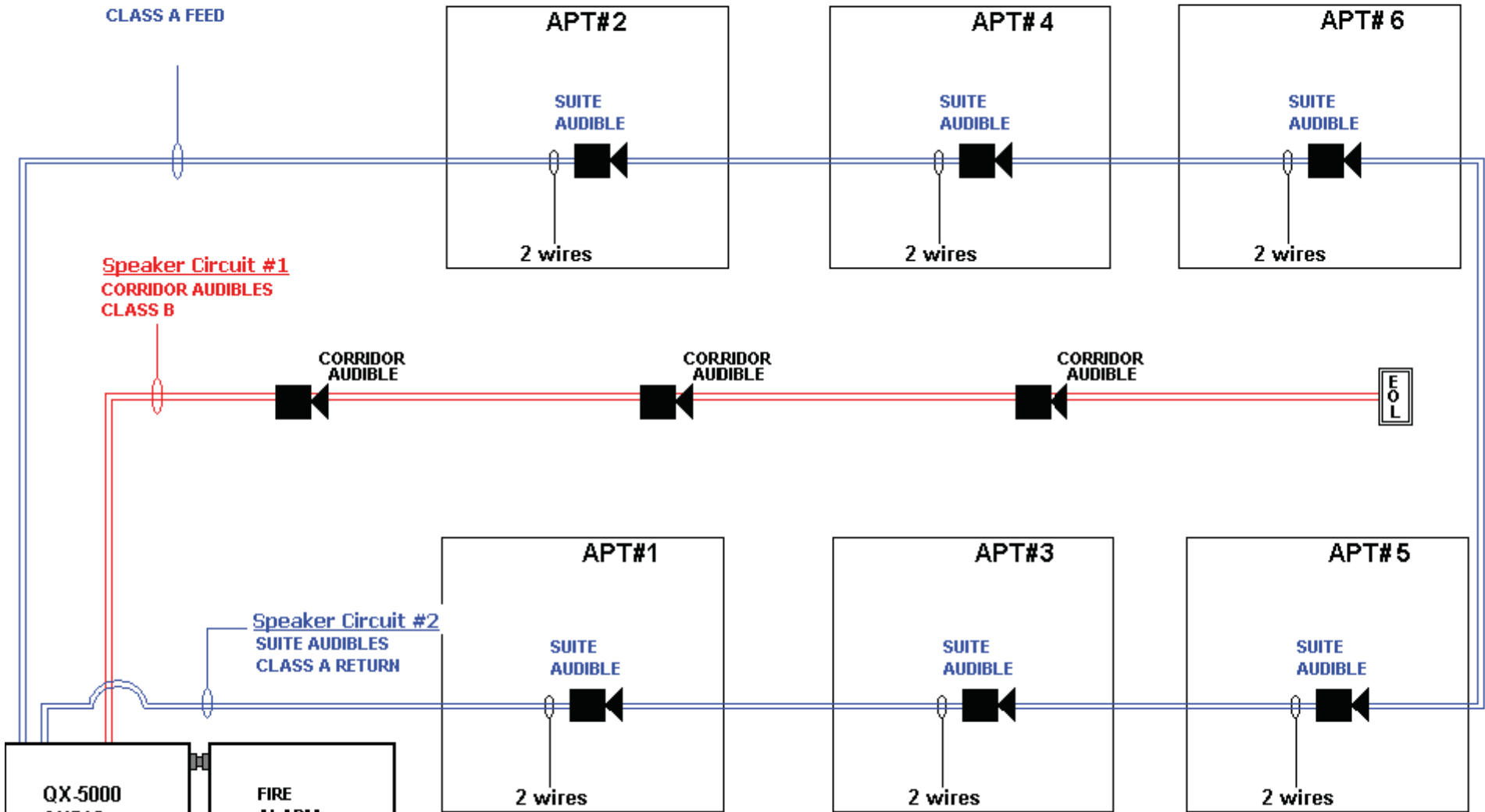
PROJECT: SQ. Alexandra Park  
38 Cameron Street Block 2

CONTRACTOR: Jay Electrical DWG NO.:

DATE: 02/20/15 DRAWN BY: 2107

Speaker Circuit #2  
 SUITE AUDIBLES  
 CLASS A FEED

Speaker Circuit #1  
 CORRIDOR AUDIBLES  
 CLASS B



Note: Observe raceway separation for Class A wiring as per ULC-S524-06 (3.3.1.3)

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<b>PROVO PART NUMBER</b>  <b>5882</b>	<b>FIRE ALARM - MULTI CONDUCTOR - SHIELDED          SOLID BARE COPPER CONDUCTORS          CONDUCTORS TWISTED          100% ALUMINUM FOIL SHIELD          SOLID TINNED COPPER DRAIN WIRE          PVC INSULATION • RED PVC JACKET          -20 °C +105 °C</b>
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## Electro Cables Part Number PR-7241802BFT4

SPEC CRITERIA	SPECIFICATION
AWG	18
STRANDING	SOLID BARE COPPER
NUMBER OF CONDUCTORS	2 TWISTED
DRAIN WIRE AWG	22 (1)
INSULATION TYPE	PVC
INSULATION THICKNESS	0.015
JACKET TYPE	PVC RED
JACKET THICKNESS	0.030
NOM. CABLE OD	0.211
VOLTAGE	300
TEMPERATURE	-20 °C to +105 °C
PUT-UP METERS	300
WEIGHT (LBS)	30
CSA	CMG, FAS FT-4
UL	CMG, UL444
RoHS	COMPLIANT
FLAME TEST	FT-4
COLOUR CODE	1) Black 2) Red

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CAT #  
**PP5052**

18 AWG 2 CONDUCTOR SOLID BARE COPPER WIRE WITH PP INSUALTION, UNSHIELDED AND OVERALL PVC JACKET FOR ADDRESSABLE FIRE SYSTEMS, DATA CIRCUITS, AUDIO CIRCUITS, CONTROL CIRCUITS, INITIATING CIRCUITS, NOTIFICATION CIRCUITS



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SPEC CRITERIA	SPECIFICATION
AWG	18
STRANDING	SOLID
CONDUCTOR	BC - BARE COPPER
INSULATION	0.381 mm FHDPE
NUMBER OF CONDUCTORS	2
NUMBER OF PAIRS	1
IMPEDANCE	50 Ohms
CAPACITANCE	42.653 pf/m (conductor to conductor)
	75.55 pf/m (1 cond. and other conductors connected to shield)
FIRST SHIELD	IND ALUM/MYLAR
FIRST DRAIN	STC COMMON
JACKET TYPE	RED PVC
NOM. CABLE OD:	0.8382 mm
VOLTAGE	300
TEMPERATURE	-20°C to +75°C
WEIGHT	30.508 kg/km
CSA	AWM, CMG
UL	UL 1685 UL LOADING
FLAME TEST	FT4
COLOUR CODE	1 BLACK/RED
APPLICATION	ADDRESSABLE FIRE SYSTEMS, DATA CIRCUITS, AUDIO CIRCUITS, CONTROL CIRCUITS, INITIATING CIRCUITS, NOTIFICATION CIRCUITS

## Wiring Requirements for new installations

- 1) The speaker and telephone risers must not share the same conduit
- 2) Speaker wiring and Strobe wiring can be run in the same conduit.
- 3) The addressable loop must be...
  - A) 1 twisted pair #18awg or 16awg in its own jacket.
  - B) Do not use a 3, 4 or 5 conductor cable for addressable loop, must be twisted pair.
  - C) Must not share the same conduit as the speaker or telephone wiring.
  - D) The resettable 24 Volt smoke power can be run in the same conduit as the addressable loop.
  - E) The maximum loop resistance is 40 ohms. This must be strictly observed! Higher loop resistance will cause intermittent, erratic behavior of the addressable devices connected to the loop.
  - F) The addressable loop must be run in a "Class A" manner and no T – tapping is allowed.
  - G) See additional information on Analog loop wiring chart below.
- 4) The ground wire must be run outside the jacket of the addressable loop. Do not use #18/3 cable and use one of the conductors for ground (green). For ground wire, use an external 14awg wire run outside of cable jacket, but inside conduit (Usually 14awg).
- 5) Annunciator wiring – Data and power wires can be run in same conduit.
- 6) Follow wiring charts below to determine wire proper wire gauge.

**Wiring Table for Initiating Circuits**

Wire Gauge (AWG)	Maximum Wiring Run to Last Device (ELR)	
	ft	m
22	2500	810
20	4700	1430
18	7680	2350
16	12000	3660
14	19000	5800
12	30400	9200

**NAC Circuit Wiring Table**

TOTAL SIGNAL LOAD	MAXIMUM WIRING RUN TO LAST DEVICE (ELR)								MAX. LOOP RESISTANCE
	18AWG		16AWG		14AWG		12AWG		
Amps	ft	m	ft	m	ft	m	ft	m	Ohms
0.05	7500	215	3750	1140	6000	1800	5400	1650	30
0.10	1500	430	750	228	1200	360	1080	330	6
0.30	470	143	750	229	1200	366	1900	579	6
0.60	235	71	375	114	600	183	850	259	3
0.90	156	47	250	76	400	122	570	174	2
1.20	118	36	185	56	300	91	425	129	1.5
1.50	94	29	150	46	240	73	343	105	1.2
1.70	78	24	125	38	200	61	285	87	1.0

**Analog Loop Wiring**

Wire Gauge	Maximum Wiring Run to Last Device (ELR)	
(AWG)	ft	m
18	3132	955
16	4980	1518
14	7971	2429
12	12000	3660

**Notes:** Line capacitance shall not exceed 0.5 mF  
 Inductance shall not exceed 1 mH  
 Resistance shall not exceed 40 ohms.

Belden 5230UJ cable is the recommended wire to be used for any Data applications such as the addressable loops, network bus wiring and annunciator data bus wiring.

**Wiring Chart for 70V Speakers**

Total Power	Maximum Wiring Run To Last Device (ELR)								
	18AWG		16AWG		14AWG		12AWG		
	ft	m	ft	m	ft	m	ft	m	
Watts									
15	2500	762	4000	1219	6000	1828	8000	2438	
30	1500	457	2500	762	4000	1219	6000	1828	
60	750	228	1200	365	2000	609	3500	1066	

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**Notes for Wiring Charts:**

1. For each speaker zone, select the total zone power.
2. Distance shown is calculated to the last speaker, based on the worst case with all speakers lumped at the end.
3. Calculation is based on a 1db power loss (20%) and a source of 70V or 25V.



# FX-2000/QX-5000 Series Fire Alarm /EVAC System Sequence of Operation

## In accordance with the 2006 O.B.C. Section 3.2.4.19

### Single Stage Operation

.1 Upon activation of a fire alarm detection device (pull station, heat detector, smoke detector, sprinkler water flow device), the Mircom FX-2000 Fire Panel shall:

- .a Turn on the respective red alarm LED at the control panel and annunciator panel located in the main electrical room and front vestibule as indicated on the plans
- .b Display the activated zone on the LCD display at the main Fire Alarm control panel and all fire alarm remote annunciator panels
- .c Cause auxiliary contacts to activate door release, shut down fans, elevator recall, etc.
- .d Activate the common alarm contact to notify the local fire department or approved central monitor station
- .e Light the red evac leds at the amplifier units.
- .f Light the red evac led at the QZP-5101 Evac Zone selector switch.
- .g Cause the alarm speaker devices to sound the Temporal pattern Evac tone throughout the building.

Coord. Sequence of Operation as indicated on electrical design drawings, the Fire Code Consultants Report and with the Sequence of Operation as noted on the Shop Drawings.

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- .2 The audible speaker appliances shall sound uninterrupted during the first minute of alarm. After the first minute expires, all suite speakers except for the floor of initiation will automatically silence
- .3 A subsequent alarm elsewhere in the building will reactivate the silenced suite speakers
- .4 If the alarm condition is still active, after a period of not more than 10 minutes, the silenced suite speakers will reactivate and sound without the ability to be automatically silenced.
- .5 Silencing of signals shall be via the Signal Silence button at the main panel and shall be inhibited for the first minute of alarm.



- .6 The QX-5000 can automatically override the automatic Evac signal to allow the transmission of voice messages at all times, including the silenced suite speakers.
- .7 The system operator shall be able to page to the audible speaker devices by simply keying the microphone and by also selecting either "all-call" (to page to all speaker zones) or one or more zone select switches at the paging selector panel (to page to particular zones). This operation shall be inhibited during the first minute of alarm. While paging, the Evac alarm tone shall be suppressed only on those zones receiving the page announcement. The "mic level" indicator on the microphone shall flash in response to the voice paging level. When page is completed, the Evac tone shall return to the appropriate speaker zones unless previously silenced. There shall also be provision for "all-call minus" paging; allowing the operator to page all zones not currently manually selected.
- .8 The alarm condition shall be cleared only upon reset of the fire detection system.
- .9 Activation of a remote firefighter's handset (i.e. handset taken off hook) shall cause a call-in buzzer to sound at the master handset module. If the system is not zoned, the common "incoming call" LED will flash to indicate the call; operation of the incoming select switch shall put the operator in communication with the field handset user. If the system is zoned, the appropriate zone LED shall flash at the selector panel; operation of the corresponding zone switch shall establish communication. In this manner, up to six remote handsets in total may be connected to the master at one time. There shall also be provision for "warden page" operation; allowing the field or master handset operator to use the telephone handset system as the "paging microphone" for the voice page system.
- .10 Control Switches:**
  - .a Buzzer Silence---- Silences trouble buzzer.
  - .b Lamp Test ---- Tests operation of related LED indicators.
  - .c AC On LED----The AC On LED illuminates steady green while the main AC power is within acceptable levels. It turns off when the power level falls below the power-fail threshold and the panel switches to standby (battery) power.
  - .d Alarm Queue LED  
The Alarm LED flashes red whenever the panel is in alarm. An alarm results from any alarm on any point or input programmed as alarm or activation of the manual red General Alarm button (if the panel is set for two stage operation). The Alarm Queue LED will illuminate steadily once *all* alarms in the queue have been reviewed using the Alarm Queue button. Since all alarms

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are latched until the panel is reset, the LED will remain on until then.

- .e Supervisory Queue LED  
The Supv. (Supervisory) LED flashes amber when there is a supervisory alarm in the panel resulting from any latching or non-latching supervisory circuit. The LED turns off if all non-latching supervisory circuits are restored and there are no active latching supervisory circuits. The Supervisory Queue LED will illuminate steadily once *all* supervisory alarms in the supervisory queue have been reviewed using the Supv. Queue button. Latching supervisory alarms remain active until the panel is reset.
- .f Trouble Queue  
The Trouble LED flashes amber at the trouble flash rate when the panel detects any trouble condition. The LED turns off after all non-latching troubles are cleared. The Trouble Queue LED will illuminate steadily once all troubles in the trouble queue have been reviewed using the Trouble Queue button.
- .g Monitor Queue LED  
The Monitor Trouble LED flashes amber at the trouble flash rate when the panel detects any Monitor condition. It turns off after all monitor troubles are cleared.
- .h All-Call --- Allows microphone paging to all speaker circuits.
- .i All-Call Minus --- In a zoned voice system, allows paging to all speaker zones not currently selected for paging.
- .j Warden Page --- Allows use of the handset system as a paging source.
- .k Page Switches --- In a zoned voice system, allows manual selection of individual speaker zones for page.
- .L Evac Switches --- In a zoned system, allows manual selection of individual speaker zones for sounding the Evac Tone.
- .m Incoming Call --- Connects incoming handset call to master handset in a non-zoned system.
- .n Tel. Switches --- Connects incoming handset call to master handset in a zoned system.

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## **Queue Buttons**

Use the queue buttons to select a particular queue to review.

### **Alarm Queue Button**

Use the Alarm Queue button to view all alarms. Pressing this button will show the latest alarm on the LCD display. Use the Up arrow and down arrow buttons to view all previous alarms.

### **Supervisory Queue Button**

Use the Supervisory Queue button to view all supervisory conditions. Pressing this button will show the latest supervisory information on the LCD display. Use Up arrow and down arrow buttons to view all previous supervisory conditions on the LCD display.

### **Trouble Queue Button**

Use the Trouble Queue button to view all trouble conditions. Pressing this button will show the latest trouble condition on the LCD display. Use the Up arrow and down arrow buttons to view any previous troubles.

### **Monitor Queue Button**

- Use the Monitor Queue Button to show all monitor conditions. Pressing this button will show the latest monitor information on the LCD display. Use the Up arrow and down arrow buttons to view all queued monitor conditions.

Queues are displayed on the screen according to a priority sequence. Queue priority ranking from highest to lowest is as follows: alarm, supervisory, trouble, and monitor. If, for example, you are viewing a monitor queue and an alarm occurs, the display will immediately display the alarm condition. Also, if there is no activity on the system for 10 seconds after you have pressed a queue button, the display will switch to the highest priority condition.

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## INTELLIGENT FIRE ALARM AND AUDIO NETWORK SYSTEM




BBX-FXMNSR

BBX-5014R

### Description

Mircom's Flex-Net™ Series Network Fire Alarm Control Panels offer modular components to meet a wide variety of applications. Designed for peer-to-peer network communications, the Flex-Net Series allows for a maximum of 63 nodes, while providing reliability, flexibility and expandability.

The Flex-Net Series is based on the proven and reliable FX-2000 Series platform. It expands on the base design to provide a powerful system capable of providing network control, multi-channel voice evacuation and two-way fire fighter communications over a single pair of wires or fiber-optic cable. Each base panel consists of one intelligent signaling line circuit (SLC) capable of supporting 99 analog sensors and 99 addressable modules. In addition the base panel also consists of 4 Style Z/Y (Class A/B) Notification Appliance Circuits rated at 1.7 Amps each and a large back-lit alphanumeric LCD display.

The audio control provides a multi-channel distributed audio system that allows for efficient emergency paging, evacuation signaling and fire fighters' telephone communication. Each audio card cage supports a maximum of 4 QAA style amplifiers for a maximum of 180 watts per cabinet.

Mircom's Flex-Net Series provides a new level of expansion and flexibility by providing support for BACnet, Boolean logic, and real time 3D graphic monitoring and control. In addition the system supports three configuration files which allows for the system to be easily configured without taking the panels offline.

Flex-Net's modular design allows for site specific customization and the ability to meet local and national requirements.

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### Features

#### Fire Alarm Control

- One expandable to twenty nine Intelligent Signaling Line Circuits (SLC)
- Each SLC is capable of supporting 99 Analog Sensors and 99 Addressable Modules which can be wired in Style 6 or 7 (Class A) or Style 4 (Class B)
- Four Style Z/Y (Class A/B) Notification Appliance Circuits rated at 1.7 Amps each
- Supports both 80 character and 960 character back-lit LCD displays with user friendly menu
- Supported languages: English, French, Arabic\* and Hebrew\* (\*960 character back-lit LCD display only)
- Correlatable Switch Inputs which allows for multi-functional outputs
- Four Alarm Queues with selector switches and LEDs for Alarm, Supervisory, Monitor and Trouble
- RS-232 output for remote system printer or CRT
- Two Event History Logs comprised of a 6000 Alarm History Log and a 6000 Event Log for all events
- Built-in BACnet support
- System can be configured without taking the panel offline
- Supports three configuration files (current, previous and next configuration) with "hot swap" support
- Real time 3D graphical monitoring and control using Mircom's Open Graphic Navigator™
- Supports Boolean logic functions
- Built-in Ethernet port
- Remote diagnostics via a built-in web server
- UL listed for Smoke Control (UUKL)

#### Audio Control

- Multi-channel operation
- Distributed audio
- 5 hard wire fire fighter telephone channels that can be expanded with intelligent fire phone modules
- 25 or 70 volt system
- Multiple amplifier sizes
- Max. of 180 watts per Integrated Fire & Audio panel
- Expansion to three 360 watts expansion cabinets for a total of 1260 watts of audio power per node

#### Network Features

- Up to 63 nodes
- Peer-to-peer network communications
- Fully integrated digital network audio and control over a single pair of copper wire or fiber optic cable
- Supports over 5,000 points per node
- Supports over 250,000 points on a single network
- Remote diagnostics via built in web server and standard Ethernet port in every node
- Style 4 (Class B) or Style 6 or 7 (Class A) wiring configuration
- Proprietary Arcnet Network Communications protocol



S7010



S7010



7165-1477:111

NYC  
Fire Dept.  
COA# 6064



APPROVED

**CATALOG NUMBER 5940**

NOT TO BE USED FOR INSTALLATION PURPOSES.

Mircom reserves the right to make changes at any time without notice in prices, colours, materials, components, equipment, specifications and models and also to discontinue models.

## FleX-Net Integrated Fire and Audio Control Panels



### FX-2009-12NDS Large Network Main Control Unit

The FX-2009-12NDS Large Network Main Control Unit consists of a base fire alarm panel with one isolated intelligent Signaling Line Circuit (SLC) Style 4, 6 or 7, Four Style Z/Y (Class A/B) NAC circuits, a 4 line by 20 character LCD display and a 12 Amp power supply. The FX-2009-12NDS has space to mount the FNC-2000 Fire Network Controller Module, ANC-5000 Audio Network Controller Module, TNC-5000 Telephone Network Controller Module and provision to mount up to 4 adder modules. The FX-2009-12NDS mounts in a BB-5000 Series enclosure and supports Audio Lobby Control modules, Fire Fighter's Lobby Control modules and FX-2000 Internal Annunciator / Programmable modules.



### FX-2000MNS Main Network Board

The FX-2000MNS main network board includes one intelligent Signaling Line Circuit (SLC) and Four Style Z/Y (Class A/B) NAC circuits. The FX-2000MNS has provisions to mount up to 9 internal adder modules and mounts in the BBX-FXMNS enclosure.



### QMB-5000N Integrated Audio Network Chassis

The QMB-5000N includes the audio and telephone control which consists of an audio card cage designed for mounting the ANC-5000 Audio Network Controller Module, TNC-5000 Telephone Network Controller Module and up to four QAA style audio amplifiers. The QMB-5000N connects to the FX-2000MNS main board and mounts in the BBX-FXMNS enclosures. The QMB-5000N supports audio expansion with connection to up to three QBB-5001 Audio Cabinets. Each QBB-5001 can support a maximum 360 watts.



### ECX-0012 Expander Chassis

The ECX-0012 Expander Chassis for the FX-2009-12NDS supports up to 12 adder modules and has space for 2 internal annunciator modules. The ECX-0012 mounts in the BB-5000 series enclosures.



### BB-5008/BB-5014 Enclosures

The BB-5008 and BB-5014 enclosures support the FX-2009-12NDS and provide space for internal lobby control modules. The cabinets hold up to 24 AH batteries. The door and chassis hardware are ordered separately.

**BB-5008 Dimensions:** 36"H x 30"W x 7"D

**BB-5014 Dimensions:** 60"H x 30"W x 7"D

## Electrical Specifications

<b>Fire Alarm Primary Input Power</b>	120V 60Hz / 240V, 50Hz 4 Amps / 2 Amp (primary)
<b>Power Supply Ratings</b>	12 Amps. max. (secondary)
<b>For NAC Circuits</b>	24VDC unfiltered, 10 Amps. max.
<b>Battery Type</b>	24VDC, GeL-Cell/Sealed Lead-Acid
<b>Battery Charging Capability</b>	17-65 AH batteries
<b>Audio Primary Input Power (QPS-5000N)</b>	120 VAC, 60Hz / 240 VAC, 50Hz 12 Amps

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## Flex-Net Integrated Fire and Audio Control Panels



### DSPL-420 Main Display Module

The DSPL-420 Main Display Module provides a 4 line by 20 character backlit LCD display, Common Control buttons and Four Status Queues with selector switches and LEDs for Alarm, Supervisory, Trouble and Monitor. The DSPL-420 occupies one display position in the BBX-FXMNS enclosure.



### DSPL-2440 Graphical Main Display Module

The DSPL-2440 Graphical Main Display Module provides a 24 line x 40 character backlit LCD display, Common Controls buttons and Four Status Queues with selector switches and LEDs for Alarm, Supervisory, Trouble and Monitor. The DSPL-2440 occupies one display position in the BBX-FXMNS enclosure.



### QMP-5101NV Network Master Paging Control Module

The QMP-5101NV Network Master Paging Control Module includes the paging microphone and common control indicators. The QMP-5101NV allows for all call paging or selective paging with the QAZT-5302DS Zoned Paging and Telephone Selector Modules. The QMP-5101NV is a vertical mount unit that mounts in the BBX-FXMNS enclosure.



### QMT-5302NV Network Master Fire fighters' Telephone Control Module

The QMT-5302NV includes the Master Telephone Handset and common control indicators. The QMT-5302NV supports the QAZT-5302DS Paging and Telephone selector modules. The QMT-5302NV is a vertical mount unit that mounts in the BBX-FXMNS enclosure.



### BBX-FXMNS Enclosure

The BBX-FXMNS enclosure supports the FX-2000MNS Network main board, a DSPL-420 or DSPL-2440 Main LCD display, a QMB-5000N audio card cage, a QMP-5101NV Master Paging Microphone and a QMT-5302NV Master Telephone Handset. In addition the enclosure provides space for additional external modules and internal lobby control modules. The BBX-FXMNS holds up to 40 AH batteries and is available with a white (BBX-FXMNS) or red (BBX-FXMNSR) door.

**BBX-FXMNS Dimensions:** 61.5"H x 20"W x 9"D

## Power Supply Expansion



### INX-10AC Internal Booster Power Supply Module

Mircom's INX-10AC is an Intelligent Booster Power Supply that extends the power capabilities of existing notification appliance circuits as well as provide power for other ancillary devices. The INX-10AC has 10 amps of power and mounts inside the BB-5014 enclosure.

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## Fire Network Controller Modules



### FNC-2000 Fire Network Controller Module

The FNC-2000 provides network capability to the FX-2009-12NDS. One Fire Network Controller Module is required per network node panel. In addition the FNC-2000 provides an interface for adding an optional FOM-2000-SP Fiber Optic Network Adder Module. The FNC-2000 mounts in the FX-2009-12NDS.



### FOM-2000-SP Fiber Optic Network Adder Module

The FOM-2000-SP Fiber Optic Network Adder Module allows for the use of fiber optic cabling on the FX-2009-12NDS. It seamlessly connects to the interface on the FNC-2000 Fire Alarm Network Controller Module.

## Adder Loop Controller Modules



### ALCN-792M Quad Loop Controller Module

The ALCN-792M Quad Loop Controller Module provides two Signaling Line Circuits (SLC) to the Flex-Net system consisting of 99 Analog Sensors and 99 Addressable Modules per loop. The ALCN-792M can be expanded with the use of the ALCN-792D Daughter Board Module. The ALCN-792M occupies one module slot.



### ALCN-792D Daughter board for Quad Loop Controller Module

The ALCN-792D Daughter Board provides an additional two SLC when connected to the ALCN-792M Quad Loop Controller Module. The daughter board mounts on top of the ALCN-792M.

## Adder Hardware Modules



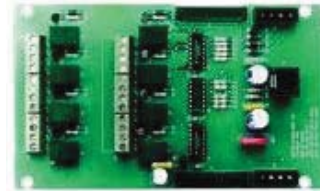
### DM-1008A Eight Initiating Circuit Module

The DM-1008A provides 8 Style B (Class B) or 4 Style D (Class A) Initiating Circuits configurable for Alarm, Supervisory or Trouble zones. The DM-1008A occupies one module slot.



### SGM-1004A Four Notification Appliance Circuit Module

The SGM-1004A provides 4 Style Z/Y (Class A/B) Notification Appliance Circuits configurable as Silenceable or Non-Silenceable. Each NAC circuit is rated at 1.7 Amps and has individual signal silence inputs (jumper selectable). The SGM-1004A occupies one module slot.



### RM-1008A Eight Relay Circuit Module

The RM-1008A provides the system with eight individual configurable relays per module. Each relay provides one Form C contact rated at 28 VDC @1 Amp (resistive load) as well as a Green LED to indicate that the relay is active. The RM-1008A occupies one module slot.

## Adder Auxiliary Modules



### UDACT-300A Digital Alarm Communicator Module

The UDACT-300A Digital Communicator allows the system to transmit addressable point information to a control station. The UDACT-300A occupies one module slot.



### PR-300 Polarity Reversal/City Tie Module

The PR-300 Polarity Reversal/City Tie Module provides the system with a supervised City Tie (24 VDC/200 mA max.) and Polarity Reversal connection (24 VDC (open circuit), 8 mA max. (shorted)). The PR-300 occupies one module slot.

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## Remote LCD Annunciators



### RAXN-LCD Remote LCD Annunciator

The RAXN-LCD Remote LCD Annunciator is equipped with a 4 line x 20 character back-lit alphanumeric LCD display that provides an exact replica of the main Flex-Net fire alarm control panel display. The RAXN-LCD occupies one display position in the BB-1000 or BB-5000 Series enclosures.



### RAXN-LCDG Remote Graphic LCD Annunciator

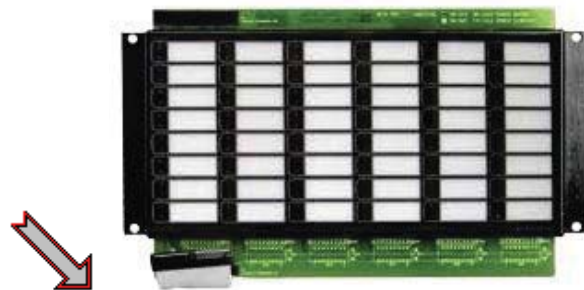
The RAXN-LCDG Remote Graphic LCD Annunciator is equipped with a 24 line x 40 character back-lit graphical LCD display that is used to display 9 events per page. Each event is displayed over 2 lines with 40 characters per line allowing emergency information to be displayed in an easy to read format. The RAXN-LCDG occupies one display position in the BB-1000 or BB-5000 Series enclosures.

## Remote LED Annunciators



### RAM-1032TZDS Main Remote LED Annunciator

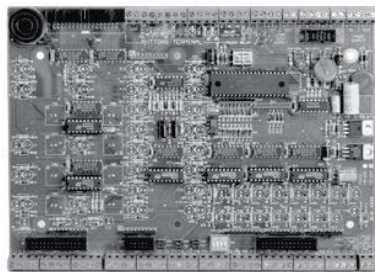
The RAM-1032TZDS Main Remote LED Annunciator provides common annunciator functions and 32 points of LED annunciation. The RAM-1032TZDS has indicators for A.C. On, Common Trouble and Signal Silence and controls for System Reset, Lamp Test, Fire Drill, Buzzer Silence and Signal Silence. The RAM-1032TZDS occupies one display position in the BB-1000 or BB-5000 enclosures.



### RAX-1048TZDS Programmable LED Annunciator Module

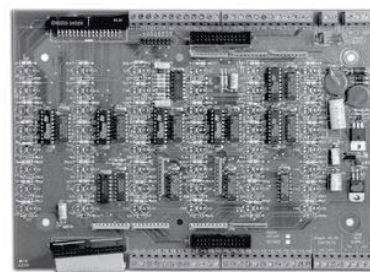
The RAX-1048TZDS Programmable LED Annunciator Module provides 48 programmable bi-colored LEDs. The RAX-1048TZDS connects to the main panel or either the RAXN-LCD or RAM-1032TZDS when mounted remotely. The RAX-1048TZDS occupies one display position in the BB-1000 or BB-5000 Series enclosures.

## Graphic Annunciator Driver Modules



### MGD-32 Master Graphic Driver Module

The MGD-32 Master Graphic Driver Module provides common control inputs for the common control switches such as System Reset, Signal Silence, Auxiliary Disconnect, Fire Drill, Lamp Test, Acknowledge and General Alarm. The MGD-32 can also drive up to 32 supervised outputs. These output points are capable of driving LEDs or incandescent lamps. The MGD-32 mounts in a graphic annunciator wallbox or in the BB-5000 enclosures. An external power supply is required for incandescent lamps and lamp test.



### AGD-048 Adder Graphic Driver Module

The AGD-048 Adder Graphic Driver Module can be used with the MGD-32 to support an additional 48 supervised outputs. The AGD-048 mounts in a graphic annunciator wallbox or in the BB-5000 Series enclosures.

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## Programmable Modules



### FDX-008 Fan Damper Control Module

The FDX-008 Fan Damper Control Module provides individually programmed circuits which can be used for fan or damper control. The FDX-008 connects to the main panel or the RAXN-LCD and occupies one display position in the BB-1000 or BB-5000 Series enclosures.



### IPS-2424DS Programmable Input Switches Module

The IPS-2424DS provides 24 programmable switches that can be configured for ancillary functions such as zone bypass or added common control functions. The IPS-2424DS connects to main panel or the RAXN-LCD when mounted remotely. The IPS-2424DS occupies one display position in the BB-1000 or BB-5000 Series enclosures.

## Mounting Brackets



### M500-BK9 Module Mounting Bracket

The M500-BK9 Module Mounting Bracket mounts inside the BB-5000 Series enclosures and provides space to mount up to nine M500 style intelligent modules.



### M500-BK2 Module Mounting Bracket

The M500-BK2 Module Mounting Bracket mounts inside the BBX-FXMNS enclosure and provides space to mount up to two M500 style intelligent modules.

## Graphics Software



### Open Graphic Navigator (OpenGN)

Mircom's Open Graphic Navigator (OpenGN) software is an advanced fire alarm management and warning system that provides building ready monitoring, control and software management solutions that allows a user to monitor remote sites from multiple operator workstations located anywhere in the world.

The OpenGN software is available in two versions: Network (OPENGN-ENT) and Non-Network (OPENGN-MINI) for use with the Mircom FX-2000 and Flex-Net Intelligent Fire Alarm Control panels.

## Dimensions for Annunciator Module Enclosures

Model	Dimensions
BB-1001	9"H x 12.75"W x 1.2"D
BB-1002	18"H x 12.75"W x 1.2"D
BB-1003	26.4"H x 12.75"W x 1.2"D
BB-1008	33"H x 22.5"W x 1.25"D
BB-1012	45"H x 22.5"W x 1.25"D

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## Flex-Net Audio and Telephone Network Controller Modules



### ANC-5000 Audio Network Controller Module

The ANC-5000 provides audio microphone control on the network system. The ANC-5000 mounts on a plate in the FX-2009-12NDS or QMB-5000N.



### TNC-5000 Telephone Network Controller Module

The TNC-5000 provides five hardwired telephone circuits for the local floor panel with the first circuit configurable for the master telephone handset. The TNC-5000 mounts in the FX-2009-12NDS or QMB-5000N.

## Paging & Telephone Control Modules



### QMP-5101N Network Master Paging Control Module

The QMP-5101N Network Master Paging Control Module includes the paging microphone and common control indicators. The QMP-5101N allows for all call paging or selective paging with the QAZT-5302DS Zoned Paging and Telephone Selector Modules. The QMP-5101N occupies one module space in the BB-5000 Series enclosures.



### QMT-5302N Network Master Firefighters' Telephone Control Module

The QMT-5302N includes the Master Telephone Handset and common control indicators. The QMT-5302N supports the QAZT-5302DS Paging and Telephone selector modules. The QMT-5302N occupies one module space in the BB-5000 Series enclosures.



### QAZT-5302DS Zoned Paging/Telephone Selector Module

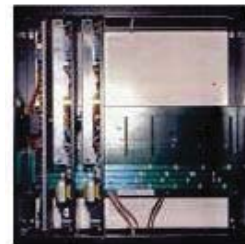
The QAZT-5302DS Zoned Paging and Telephone Selector Module includes 24 zone selector switches and LEDs. The QAZT-5302DS is used with the QMP-5101N Network Master Paging Control module or QMT-5302 Network Master Firefighters' Telephone module. Slide-in labels are provided to label the selector zones. The QAZT-5302DS occupies one module space in the BB-1000 or BB-5000 Series enclosures.

## Audio Expansion



### QBB-5001 Audio Backbox

The QBB-5001 holds one QMB-5000B Audio Motherboard and Card Cage, one QPS-5000N Audio Power Supply, one QBC-5000N Audio Battery Charger and up to 40 Ah batteries.



### QMB-5000B Audio Motherboard and Card Cage

The QMB-5000B supports 7 QAA style audio amplifiers. The QMB-5000B requires one QPS-5000N Audio Power Supply and one QBC-5000N Audio Battery Charger and mounts in the QBB-5001 backbox.



### QPS-5000N Audio Power Supply

The QPS-5000N supports up to 360 watts and mounts in the QBB-5001 Audio backbox.



### QBC-5000N Audio Battery Charger

The QBC-5000N will charge up to 65 Ah batteries and mounts in QBB-5001 Audio Backbox.

**Note:** The QBB-5001 Audio Backbox will hold up to 40 Ah batteries. Larger batteries will require a BC-160 Battery Cabinet.

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## Audio Amplifiers



### QAA-5415-70 and QAA-5415-25 Quad 15 Watt Amplifiers

The QAA-5415-70 and QAA-5415-25 consist of four 15 watt supervised paging/speaker circuits which can be wired in Class 'B' (Style 'Y') only. The QAA-5415-70 is a 70 Volt amplifier and the QAA-5415-25 is a 25 Volt amplifier. Both models mount in either the QMB-5000N or QMB-5000B card cage and occupy one amplifier slot.

### QAA-5230S-70/25 Dual 30 Watt Amplifier

The QAA-5230S-70/25 consists of two 25 or 70 Volt 30 watt amplifiers. Each amplifier has two 15 watt supervised speaker outputs which are used for 'A' 'B' speakers per floor and are wired in Class 'B' (Style 'Y') only. The QAA-5230S-70/25 mounts in either the QMB-5000N or QMB-5000B card cage and occupies one amplifier slot.

### QAA-5230-70/25 Dual 30 Watt Amplifier

The QAA-5230-70/25 consists of two 25 or 70 Volt 30 watt supervised paging/speaker circuits which can be wired in Class 'A' (Style 'Z') or Class 'B' (Style 'Y'). The QAA-5230-70/25 mounts in either the QMB-5000N or QMB-5000B card cage and occupies one amplifier slot.

### QAA-5160-70/25 60 Watt Amplifier

The QAA-5160-70/25 consists of one 25 or 70 Volt 60 watt supervised paging/speaker circuit which can be wired in Class 'A' (Style 'Z') or Class 'B' (Style 'Y'). The QAA-5160-70/25 mounts in either the QMB-5000N or QMB-5000B card cage and occupies one amplifier slot.



### QAA-4CLA Class 'A' (Style 'Z') Converter Module

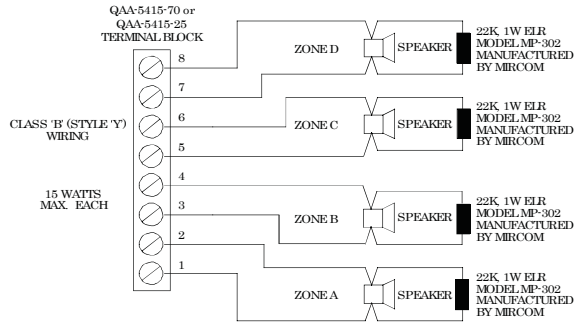
The QAA-4CLA converts each of the four Class 'B' (Style 'Y') outputs on a QAA-5415-70 or QAA-5415-25 Amplifiers to Class 'A' (Style 'Z'). The module attaches to the bottom of the amplifier. One QAA-4CLA is required for each amplifier.

### QAA-4CLAS Class 'A' (Style 'Z') Converter Module

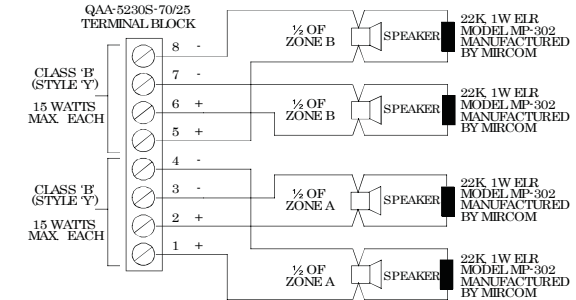
The QAA-4CLAS converts each of the four Class 'B' (Style 'Y') outputs on a QAA-5230S-70/25 or QAA-5230S-525-70/25 Amplifier to Class 'A' (Style 'Z'). The module attaches to the bottom of the amplifier. One QAA-4CLAS is required for each amplifier.

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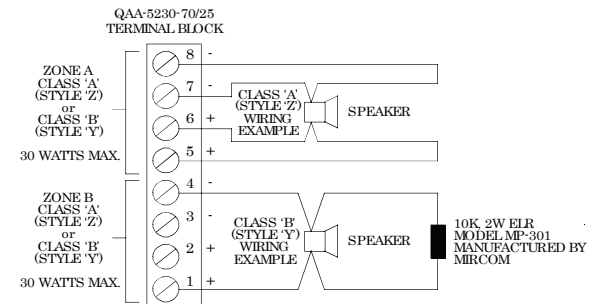
### QAA 5415-70 or QAA-5415-25 Wiring Diagram



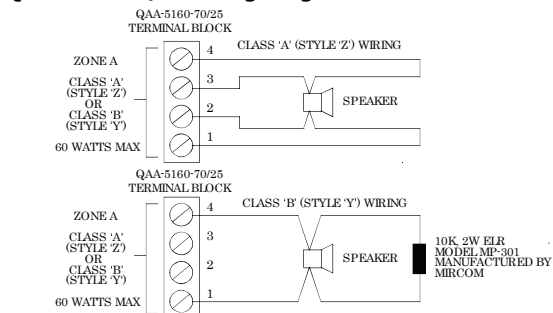
### QAA-5230S-70/25 Wiring Diagram



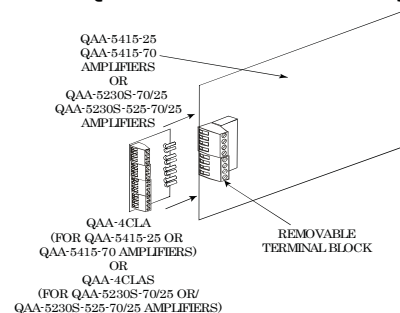
### QAA-5230-70/25 Wiring Diagram



### QAA-5160-70/25 Wiring Diagram

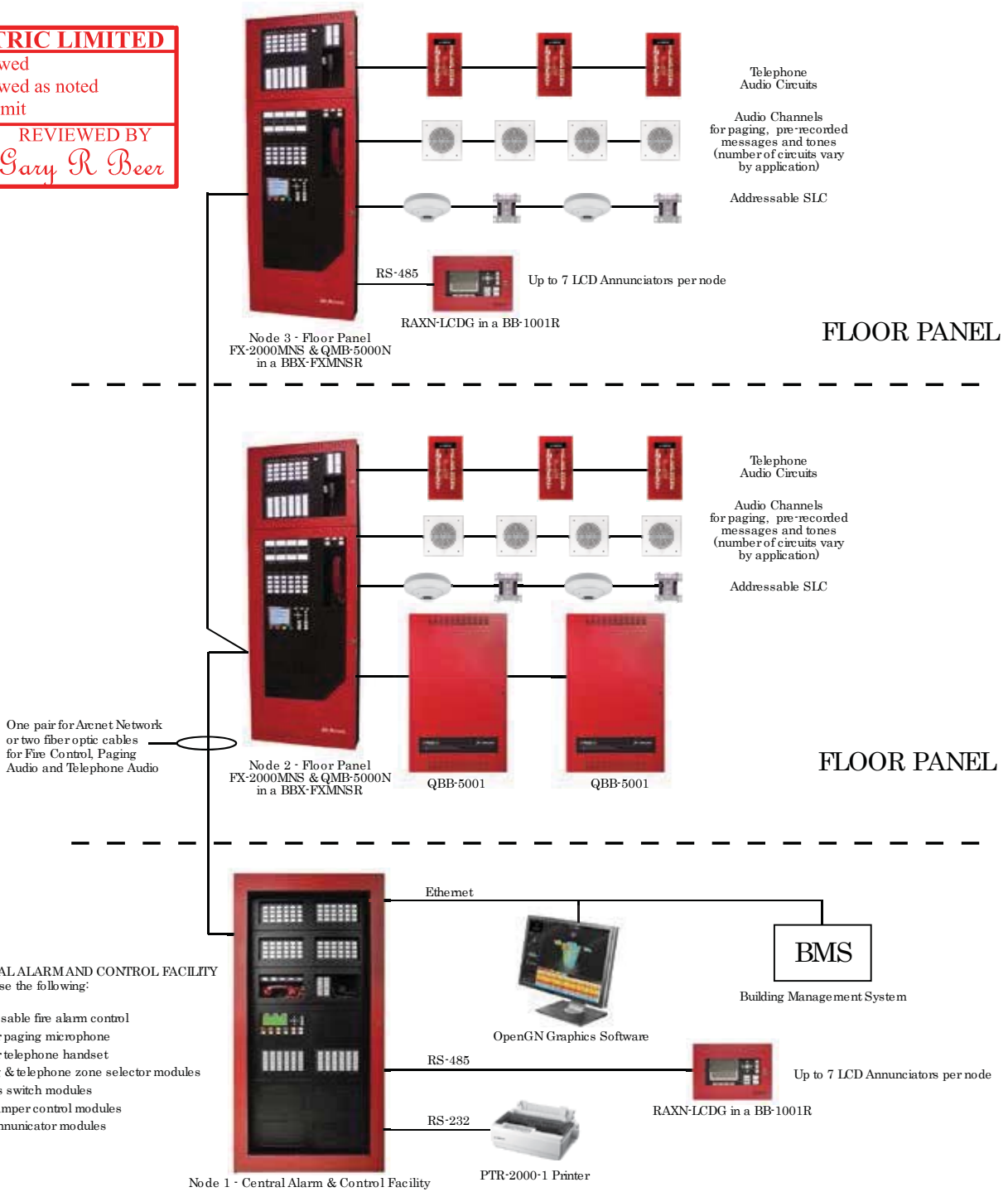


### QAA-4CLA and QAA-4CLAS Connection Diagram



# Typical FleX-Net Networked System Configuration with Audio

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## Current Consumption

Model Number	Description	Standby (Amps)	Alarm (Amps)
<b>Fire Alarm Components</b>			
FX-2003-12NDS	Compact Main Network Control Unit (12 Amp)	0.310	0.733
FX-2017-12NDS	Mid-Size Main Network Control Unit (12 Amp)	0.310	0.733
FX-2009-12NDS	Large Main Network Control Unit (12 Amp)	0.310	0.733
ALCN-792M	Quad Loop Controller Module	0.130	0.145
ALCN-792M /w ALCN-792D	Quad Loop Controller Module with Daughter Module	0.130	0.145
FNC-2000	Fire Network Controller Module	0.190	0.0190
ANC-5000	Audio Network Controller Module	0.255	0.265
TNC-5000	Telephone Network Controller Module	0.195	0.215
FOM-2000-SP	Fiber Optics Module	0.015	0.015
DM-1008A	8 Initiating Circuit Module	0.080	1 zone active: 0.125 2 zone active: 0.170 4 zone active: 0.275 6 zone active: 0.370 8 zone active: 0.465
SGM-1004A	4 Notification Appliance Circuit Module	0.060	0.258
RM-1008A	8 Relay Circuit Module	0.025	0.150
FDX-008	Fan Damper Control Module	0.015	0.035
DSPL-420	Narrow Display	0.024	0.025
DSPL-2440	Graphic Display	0.029	0.035
UDACT-300A	Dialer Module	0.045	0.120
PR-300	City Tie Module	0.035	0.300
FDS-008	Selection Control Panel for MNS	0.024	0.112
RAX-1048TZDS	Adder Annunciator Chassis	0.022	1 zone active: 0.026 2 zone active: 0.030 3 zone active: 0.035 4 zone active: 0.039 48 zone active: 0.262
RAM-1032TZDS	Adder Annunciator Chassis	0.050	32 zone active: 0.300
AGD-048	Adder Graphic Driver Board	0.035	# of LEDs x 4mA
IPS-2424DS	Programmable Input Switches Module	0.010	0.015
<b>Audio Components</b>			
ANC-5000	Audio Network Controller Module	0.255	0.265
TNC-5000	Telephone Network Controller Module	0.195	0.215
QAA-5160-70/25	1 Zone 60W Amplifier	0.055	0.350
QAA-5230-70/25	2 Zone 30W Amplifier	0.055	0.350
QAA-5230S-70/25	2 Zone 30W Amplifier (split)	0.055	0.350
QAA-5415-70	4 Zone 15W Amplifier, 70V	0.055	0.350
QAA-5415-25	4 Zone 15W Amplifier, 25V	0.055	0.350
QMP-5101N	Master Paging Module	0.004	0.012
QMP-5101NV	Vertical Master Paging Module	0.004	0.012
QMT-5302N	Master Telephone Module	0.003	0.013
QMT-5302NV	Vertical Master Telephone Module	0.003	0.013
QAZT-5302DS	Paging/Telephone Zone Module	0.010	0.015

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## Ordering Information

Model	Description
<b>Flex-Net Network Lobby Control and Floor Panels - Integrated Fire and Audio Systems</b>	
FX-2009-12NDS	Large Network Main Control Unit. Mounts in the BB-5000 series enclosures.
ECX-0012	Expander Chassis for the FX-2009-12NDS. Mounts in the BB-5000 series enclosures.
FX-2000MNS	Main Network Board with one SLC loop. Mounts in the BBX-FXMNS enclosure.
DSPL-420	4 x 20 Main LCD Display for FX-2000MNS
DSPL-2440	Graphical Main Display for FX-2000MNS
QMB-5000N	Integrated Audio Network Control Chassis
PS-2040	Network Fire Alarm and Audio Power Supply
<b>Enclosures</b>	
BB-5008	Lobby Control Wallbox Enclosure. Supports 8 Module Footprints.
DOX-5008M	White Metal Door for BB-5008. Add suffix 'R' for red enclosure.
CCH-5008	Custom Mounting Kit for BB-5008. One required per BB-5008.
BB-5014	Lobby Control Wallbox Enclosure. Supports 14 Module Footprints.
DOX-5014M	White Metal Door for BB-5014. Add suffix 'R' for red enclosure.
CCH-5014	Custom Mounting Kit for BB-5014. One required per BB-5014.
BBX-FXMNS	Black backbox enclosure with white doors for FX-2000MNS. Add suffix 'R' for red doors.
<b>Adder Loop Controller Modules</b>	
ALC-792M	Network Quad Loop Controller Module
ALC-792D	Daughter board for ALC-792M Quad Loop Controller Module
<b>Adder Hardwire Modules</b>	
DM-1008A	Eight Class B (Style B) or 4 Class A (Style D) Initiating Circuit Module
SGM-1004A	Four Class A/B (Style Z/Y) Notification Appliance Circuit Module (Rated at 1.7 Amps per circuit)
RM-1008A	Eight Relay Circuit Module c/w eight form C relays (Rated for 28 VDC @ 1 Amp max. per relay)
<b>Adder Auxiliary Modules</b>	
UDACT-300A	Digital Alarm Communicator Transmitter/Dialer Module
PR-300	Polarity Reversal and City Tie Module
<b>Programmable Modules</b>	
IPS-2424DS	Programmable Input Switches Module c/w 24 selector switches and 24 bi-coloured LEDs
FDX-008	Fan Damper Control Module c/w 8 programmable switches
<b>Power Module</b>	
INX-10AC	Internal Booster Power Supply Module
<b>Remote Annunciators</b>	
RAXN-LCD	Remote LCD Annunciator
RAXN-LCDG	Remote Graphic LCD Annunciator
RAM-1032TZDS	Main Remote LED Annunciator c/w 32 Bi-Colored LEDs
RAX-1048TZDS	Adder Annunciator Chassis c/w 48 Bi-Colored LEDs

<b>Graphic Annunciator Driver Modules</b>	
MGD-32	Main Graphic Driver Module c/w 32 Supervised Outputs
AGD-048	Adder Graphic Driver Module c/w 48 Supervised Outputs
<b>Network Controller Modules</b>	
FNC-2000	Fire Network Controller Module
FOM-2000-SP	Fiber Optic Network Adder Module
ANC-5000	Audio Network Controller Module
TNC-5000	Telephone Network Controller Module
<b>Paging and Telephone Control Modules</b>	
QMP-5101NV	Master Network Paging Control Module for FXMNS, Vertical Mount. For use in BBX-FXMNS.
QMT-5302NV	Master Network Telephone Module for FXMNS, Vertical Mount. For use in BBX-FXMNS.
QMP-5101N	Master Network Paging Control Module
QMT-5302N	Master Network Telephone Control Module
QAZT-5302DS	Paging and Telephone Selector Panel
<b>Audio Amplifiers</b>	
QAA-5415-70	70 Volt Quad 15 Watt Amplifier
QAA-5415-25	25 Volt Quad 15 Watt Amplifier
QAA-4CLA	Class 'A' (Style 'Z') Converter Module for QAA-5415-25 and QAA-5415-70 Amplifiers
QAA-5230S-70/25	25 or 70 Volt Dual 30 Watt Amplifier split 'A' 'B' circuits per floor
QAA-4CLAS	Class 'A' (Style 'Z') Converter Module for QAA-5230S-70/25 and QAA-5230S-525-70/25
QAA-5230-70/25	25 or 70 Volt Dual 30 Watt Amplifier
QAA-5160-70/25	25 or 70 Volt 60 Watt Amplifier
<b>Enclosures for Remote Annunciators /Programmable Modules</b>	
BB-1001	Remote Annunciator/Programmable Module Enclosure Houses one module. Add suffix "R" for red door.
BB-1002	Remote Annunciator/Programmable Module Enclosure Houses two modules. Add suffix "R" for red door.
BB-1003	Remote Annunciator/Programmable Module Enclosure Houses three modules. Add suffix "R" for red door.
BB-1008	Remote Annunciator/Programmable Module Enclosure Houses eight modules. Add suffix "R" for red door.
BB-1012	Remote Annunciator/Programmable Module Enclosure Houses twelve modules. Add suffix "R" for red door.
<b>Audio Expansion Components</b>	
QMB-5000B	Audio Motherboard and Card Cage
QPS-5000N	Audio Power Supply
QBC-5000N	Audio Battery Charger
QBB-5001	Audio Backbox
<b>Graphics Software</b>	
OPENGN-MINI	Open Graphic Navigator Software, Mini Edition for standalone Flex-Net Systems
OPENGN-ENT	Open Graphic Navigator Software, Enterprise Edition for Flex-Net Network Systems

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# FIRE FIGHTER TELEPHONES



Canadian Model  
with Bilingual Markings

U.S.A. Model  
with English Markings

## Description

Mircom's Fire Fighter Telephones are designed to operate in conjunction with Mircom's QX-5000 Series Emergency Zoned Audio System. These telephone handsets are permanently installed throughout a building to allow Fire Fighters easy communication with the main control panel. The Fire Fighter telephone stations provide a handset behind a locked door. Equipped with a "break glass" feature, the unit can be accessed by unlocking the door or breaking the glass section. The door is clearly identified with the words "FIRE EMERGENCY TELEPHONE" using large white lettering for easy identification. The breakable glass section clearly indicates "To open use key or break glass" in order to access the unit.

In addition to the Fire Fighter telephone stations, Mircom provides portable Fire Fighter telephone handsets which plug-in to permanently installed telephone jacks throughout the building. Plugging in the portable handset allows the Fire Fighters to communicate with the main control panel. As with the permanently installed telephones, these portable handsets are made from durable ABS plastic and come equipped with a coiled cord and a male phone plug which plugs into the Fire Fighters' telephone jack. In addition, an optional handset storage cabinet is available to store up to six portable handsets. An optional flush trim ring is available for the storage cabinet.

## Features

- Heavy-duty construction
- Red finish
- Flush or surface mount
- Key-locked door
- Break glass insert
- Rugged ABS plastic handset with coiled cord
- Portable handsets and telephone jacks (optional)
- Optional storage cabinet for portable handsets
- Bilingual French/English Markings on Canadian models
- Supervised wiring

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## Operation

The Fire Fighter Telephone handset rests on a cradle inside the enclosure. Lifting the remote handset from the cradle causes a buzzer to sound and lights a "Common Call" indicator or a zone indicator, if provided, at the Emergency Voice Evacuation panel, while the caller hears a steady tone indicating that a call is being made.

The portable handsets plug-in to the Fire Fighters' telephone jacks which are located throughout the building. Plugging in a portable telephone handset causes a buzzer to sound and lights a "Common Call" indicator or a zone indicator, if provided, at the Emergency Voice Evacuation panel, while the caller hears a steady tone indicating that a call is being made.

## Engineer Specifications

The remote telephone stations shall consist of a model FT-300 Telephone Chassis Assembly complete with a BB-330 backbox and TC-330 Flush Mount Enclosure Cover with lock and break glass insert or a TC-331 Surface Mount Enclosure Cover with lock and break glass insert. The telephone unit shall be made of red ABS plastic and be equipped with a coiled cord. The backbox and enclosure cover shall be finished in red enamel. The door shall bear a handset symbol and the words "FIRE FIGHTERS' TELEPHONE" and breakable glass "TO OPEN, USE KEY OR BREAK GLASS". Lifting the handset shall automatically identify and announce a call at the Emergency Voice Evacuation panel. A ring signal tone shall be heard in the handset until the call has been answered.



S5434 S5434

CATALOG NUMBER **5801**

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### FT-300A Telephone Chassis Assembly

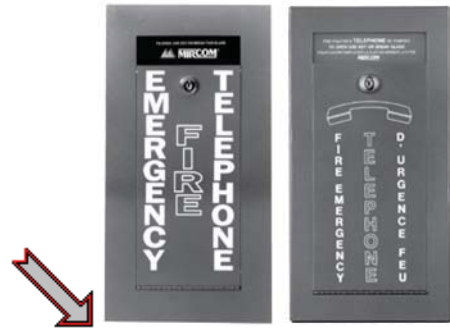
The FT-300A consists of the red telephone handset with coiled cord and red enclosure plate.



### BB-330 Backbox for Fire Fighters' Handset

Red finish backbox for flush or surface mounting.

Backbox Dimensions:  
14"H x 7"W x 3.5"D



### Fire Fighters' Handset Enclosure Covers

Red finish covers complete with break glass, lock and keys. Available as Surface cover and Flush mount cover.

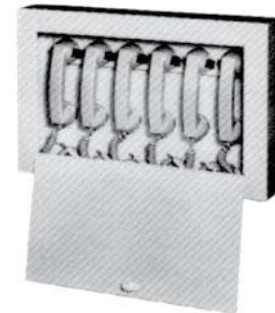
TC-330(U) Flush Enclosure Cover  
Dimensions: 15"H x 8"W

TC-331(U) Surface Enclosure Cover  
Dimensions: 14.2"H x 7.2"W



### Fire Fighters' Portable Handset & Fire Fighters' Telephone Jack

The red portable telephone handset comes with a coiled cord and a male phone plug which plugs into the Fire Fighters' Telephone Jack, allowing Fire Fighters to make direct communication with the main control panel. The Fire Fighters' Telephone Jack consists of a single phone jack which is mounted on a single gang, stainless steel plate. The stainless steel plate is clearly marked "FIRE FIGHTERS' TELEPHONE" and mounts to any standard single gang box.



### FHC-300 Fire Phone Storage Cabinet

The FHC-300 Storage Cabinet holds up to six portable FH-100A telephone handsets. The FHC-300 is a surface mount enclosure and comes with a keylocked door.

Dimensions: 13.50"H x 21.25"W x 3.75"D



### QTS-5305 Fire Fighters' Telephone Cabinet Module

The QTS-5305 Cabinet Modules houses five FH-100A portable handsets and is designed to mount in the BB-5000 series enclosures. The QTS-5305 mounts in the top right hand side of the BB-5000 series enclosures and occupies one module space.

## Ordering Information

Model	Description
FT-300A	Telephone Chassis Assembly c/w Handset and coiled cord
BB-330	Backbox for Fire Fighters' Handset
TC-330	Flush Mount Enclosure Cover c/w with lock and break glass insert (Add suffix "U" for U.S.A. model)*
TC-331	Surface Mount Enclosure Cover c/w lock and break glass insert (Add suffix "U" for U.S.A. model)*
PL-159	Replacement Break Glass
FH-100A	Portable Fire Fighters' Telephone Handset
FJ-100	Fire Fighters' Telephone Jack on a single gang front plate
FHC-300	Emergency Telephone Handsets Storage Cabinet (Holds up to six portable handsets.)
TR-300	Flush Trim Ring for FHC-300
QTS-5305	Fire Fighters' Telephone Cabinet Module. Holds up to five FH-100A Portable Handsets. (Mounts in the top right hand side of the BB-5000 series enclosures. Occupies one module space.)

\* Canadian models (TC-330/TC-331) have Bilingual markings. U.S.A. models (TC-330U/TC-331U) have English markings.

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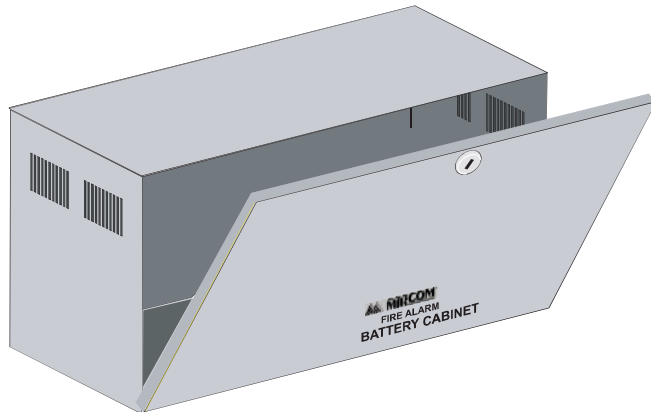
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CAT. 5801  
Rev. 5



**Features**

- Intended for use with Mircom’s FA-1000, FX-2000 and QX-5000 Series Fire Alarm Control Panels
- Bottom hinged door that opens downwards
- Holds up to 60 AH batteries
- Beige finish

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**Description**

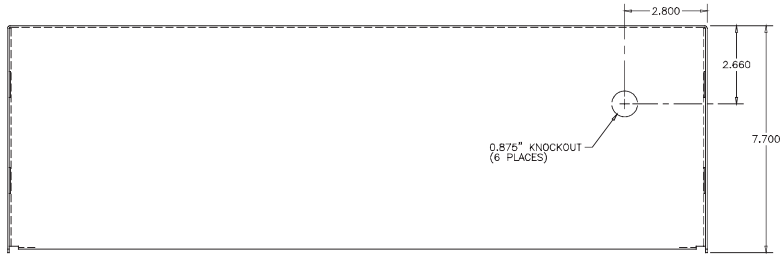
Mircom’s BC-160 Battery Cabinet is intended for use with Mircom Fire Alarm Control Panels such as the FA-1000, FX-2000 and QX-5000. It comes complete with a lockable bottom hinged door that opens downwards to allow access to the battery compartment. The BC-160 Battery Cabinet has a beige finish and holds up to 60 AH batteries.

**Installation**

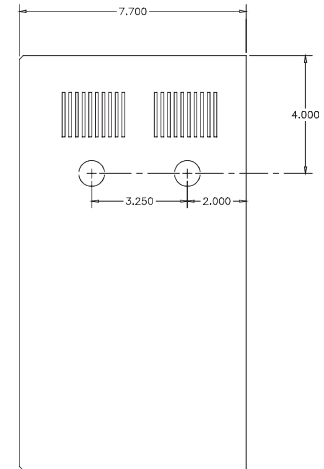
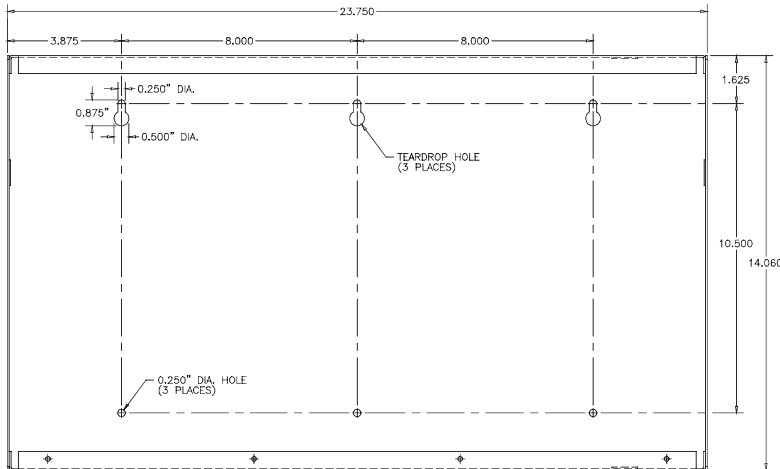
Place the BC-160 Cabinet in a clean, dry, vibration-free area, a minimum of 6” below the Control Panel (FA-1000, FX-2000, QX-5000, etc.) it is being used with. Align the BC-160 Cabinet and Control Panel knock-outs so as to simplify conduit installation. Mount the BC-160 Cabinet, using the 6 pre-drilled mounting holes, to the wall. Connect the BC-160 Cabinet to the Control Panel cabinet with conduit between the adjacent knock-outs.



## Dimensions



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## Ordering Information

Model	Description
BC-160	Battery Cabinet

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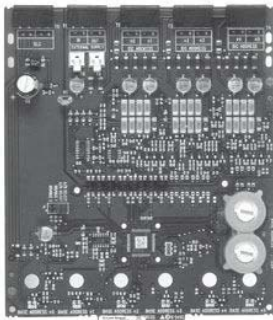
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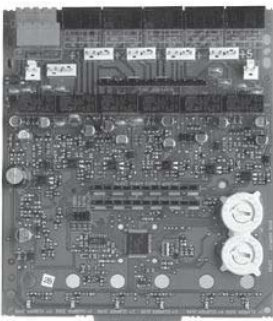
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 Rev. 4



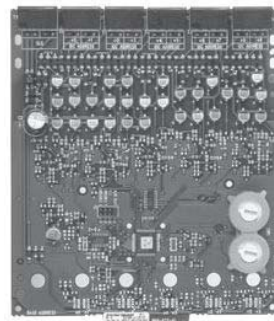
CZ-6 Six Zone Interfacel Module



CR-6 Six Relay Control Module



SC-6 Six Supervised Control Module



IM-10 Ten Input Monitor Module

**Description**

The 500 Series multiple input and output modules are designed to meet a range of applications in which numerous single modules are used. This design allows for installation ease and time savings. The monitor and control modules can be used to supervise and activate sounders, strobes, door closers, pull stations, waterflow switches, conventional smoke detectors and more. The conventional zone interface module is ideal for retrofit applications to monitor zones of conventional two-wire detectors. Each module has its own address. Modules are addressed with easy-to-use rotary code switches. Provisions are included for disabling unused addresses. Up to two modules mount in a BB-2 enclosure with built-in chassis and up to six modules mount in a BB-6 enclosure with the CH-6 chassis. Wiring terminals are easily accessible for trouble-shooting purposes.

**CR-6 Six Relay Control Module**

The CR-6 Six Relay Control module consists of six Form-C relays. The first address is set from 01 to 94, while the remaining modules are automatically assigned to the next five higher addresses. Provisions are included for disabling a maximum of three unused addresses. A single isolated set of dry relay contacts is provided for each module address which is capable of being wired for either a normally open or normally closed operation. The module allows the control panel to switch these contacts on command. No supervision is provided for the controlled circuit.

**Features**

- Removable 12-18 AWG plug-in terminal blocks
- Individual LED indicators
- Unused addresses may be disabled
- Rotary address switches
- Class A or B operation
- Mount up to 2 modules in BB-2 enclosure (optional)
- Mount up to six modules in BB-6 enclosure with CH-6 chassis (optional)
- Mounting hardware included

**SC-6 Six Supervised Control Module**

The SC-6 Six Supervised Control module provides supervised monitoring of wiring to load devices that require an external power supply or amplifier to operate, such as horns, strobes, speakers or bells. Upon command from the control panel, the SC-6 will disconnect the supervision and connect the external power supply across the load device. The first module is addressed from 01 to 94, while the remaining modules are assigned to the next five higher addresses. Provisions are included for disabling a maximum of three unused modules. Each module has terminals for connection to an external supply circuit for powering devices on its notification appliance circuit. One or multiple power supplies or amplifiers may be used. There is a short circuit protection monitor for each module. This is provided to protect the external power supply against short circuit conditions on the NAC. When an alarm condition occurs, the relay which connects the external supply to the NAC will not be allowed to close if a short circuit condition currently exists on the NAC. In addition, an algorithm is incorporated to find a short when the module is active. The module will close all circuits that are not shorted to find the NAC with the problem.

**CZ-6 Six Zone Interface Module**

The CZ-6 Six Zone Interface module provides an interface between the intelligent alarm system and a two-wire conventional detection zone. A common SLC input is used for all modules, and the initiating device circuits share a common external supply. Otherwise, each module operates independently from the others. The first module is addressed from 01 to 94 while the remaining modules are assigned to the next five higher addresses. Provisions are included for disabling a maximum of two unused modules. All two-wire detectors being monitored must be two-wire compatibility listed with the modules. The CZ-6 transmits the status of a zone of two-wire detectors to the fire alarm control panel. Status conditions are reported as normal, open or alarm. The interface module supervises the zone of detectors and the connection of the external power supply.



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## IM-10 Ten Input Monitor Module

The IM-10 Ten Input Monitor module provides an interface between a control panel and normally open contact devices such as pull stations, security contacts, or flow switches. The first address is set from 01 to 90 and the remaining modules are automatically assigned to the next nine higher addresses. Provisions are included for disabling a maximum of two unused addresses. The supervised state (normal, open or short) of the monitored device is sent back to the panel.

## Accessories



BB-6 Enclosure with CH-6 chassis



BB-2 Enclosure

### General Specifications

Operating Voltage	15-32 VDC
Max. SLC Wiring Resistance	40 Ohms
Temperature Range	32° to 120°F (0° to 49° C)
Relative Humidity	10% to 85% noncondensing
Wire Gauge	12-18 AWG
Dimensions	6.8"H x 5.8"W x 1.25"D

### CR-6 Specifications

Standby Current	1.45 mA maximum
Alarm Current	32 mA maximum (assumes all six relays have been switched once and all six LEDs solid on)
Max. IDC Wiring Resistance	40 Ohms
Relay Current	30 mA/Relay Pulse (15.6 ms pulse duration) pulse under panel control
Relay Contact Ratings	30 VDC; 70.7 VAC

### SC-6 Specifications

Standby Current	2.25 mA maximum
Alarm Current	35 mA maximum (assumes all six relays have been switched once and all six LEDs solid on)
Max. NAC Wiring Resistance	40 Ohms
Power Rating Per Circuit	63W @ 70.7VAC
Relay Contact Ratings	30 VDC; 110 VAC

### CZ-6 Specifications

Standby Current	2 mA maximum
Alarm Current	40 mA maximum (assumes all six LEDs solid on)
Max. IDC Wiring Resistance	25 Ohms
External Supply Voltage	
DC Voltage:	18-28 volts power limited
Ripple Voltage:	0.1 volts RMS maximum
Current:	90mA per module
Compatible Detectors	Contact Mircom

### IM-10 Specifications

Standby Current	3.5 mA maximum
Alarm Current	60 mA maximum (assumes all ten LEDs solid on)
Max. IDC Wiring Resistance	40 Ohms
Maximum IDC Voltage	12 VDC
Maximum IDC Current	1 mA

### BB-2 Enclosure

Dimensions	12"H x 9"W x 3.67"D
------------	---------------------

### BB-6 Enclosure

Dimensions	24"H x 12.55"W x 6.47"D
------------	-------------------------

## Ordering Information

Model	Description
CR-6	Six Relay Control Module
SC-6	Six Supervised Control Module
CZ-6	Six Conventional Zone Interface Module
IM-10	Ten Input Monitor Module
BB-2S	Module enclosure with built-in chassis; holds maximum of two modules
BB-6S	Module enclosure, chassis sold separately; holds maximum of six modules
CH-6S	Mounting chassis for BB-6 enclosure

**Note:** For Canadian models add suffix "A".

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CAT. 5923  
Rev. 3



MS-401AD

MS-401ADU

**Description**

Mircom's MS-400AD Series are single action alarm manual stations. Each manual station, on command from the panel, returns data representing the status of the unit. The addressable manual station has a pair of rotary decimal switches which allows for two digit address setting. Pulling the handle initiates the operation of the addressable module. Resetting is accomplished by inserting a 1/8" screwdriver from the front. The handle, once pulled will remain open and cannot be reset without utilizing the screwdriver.

The MS-400AD Manual stations are constructed of durable aluminium and finished in red. An abrasion resistant label with large, raised letters provides clear legible instructions. The model MS-402AD (two stage) is similar to the MS-401AD (single stage) except it contains an additional General Alarm (G.A.) N.O. switch. For safety reasons, the G.A. switch is only accessible after the handle has been pulled. A special key is supplied with each unit.

The model MS-405AD is similar to the MS-401AD except it has an additional N.O. switch. The model MS-407AD is similar to the MS-401AD except it has an additional N.C. switch. All manual stations can be easily converted from single action to double action station by the addition of the MS-DA double action lever.

**Features**

- Durable Extruded Aluminium Construction
- Attractive, Low Profile Design
- Standard Single Gang Mount
- Converts to Double Action
- Glass Rod Optional
- Permanently Attached Intelligent Addressable Module

**Operation**

Pulling on the station's handle will release the internal switch to trigger the intelligent addressable module. The MS-402AD (two stage version) also provides a key switch which is accessible after the handle has been pulled. Operation of the key switch, when connected to a separate general alarm circuit, will initiate the 2nd stage of a two stage alarm signalling system.

**Engineer Specifications**

The single action manual station shall be Mircom's MS-400AD Series. Operating instructions shall be in raised English lettering (and French Lettering for Canadian models) and the unit shall be constructed of extruded aluminium, finished in red enamel paint to provide quick identification. Pulling the handle shall initiate immediate operation of the intelligent addressable module. In addition, those stations installed in a two stage system shall come equipped with an internal key switch designed to operate the 2nd stage alarm initiating circuit. All manual fire alarm stations shall be installed as per the specific requirements outlined in the UL or ULC codes, as well as all other applicable national or local codes.

**Specifications**

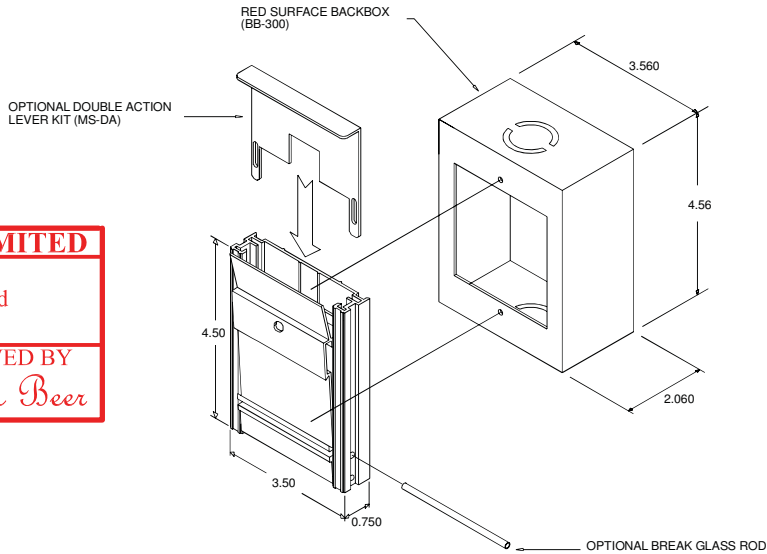
- Dimensions:** 4.5"H x 3.5"W x 0.75"D  
**Switch Rating:** 1 Amp @ 30 VDC  
 0.1 Amp @ 120 VAC

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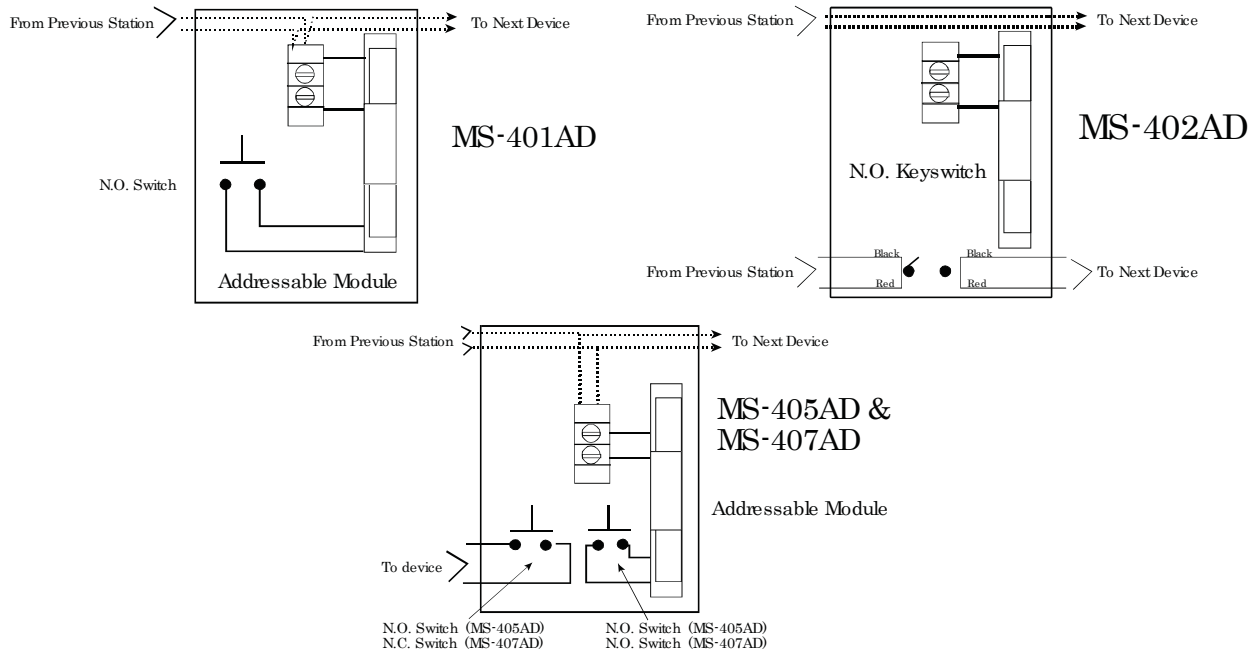


# Dimensions

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# Wiring Diagram



## Ordering Information

Model	Description
MS-401AD	Intelligent Addressable Single Stage Manual Station
MS-402AD	Intelligent Addressable Dual Stage Manual Station
MS-405AD	Intelligent Addressable Single Stage Manual Station with additional N.O. Switch
MS-407AD	Intelligent Addressable Single Stage Manual Station with additional N.C. Switch
MS-DA	Double Action Lever Kit (converts any of above to double action stations)

**Note:** Add suffix "U" for U.S.A. Model Manual Stations.

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CAT. 5907  
 Rev. 6



## Description

Attractive and durable, Mircom's MS-400 Series Pull Stations provide manual fire reporting. The MS-400 Series pull stations are non-coded, single or double action devices which initiate an alarm when pulled. Resetting is accomplished by inserting a 1/8" screwdriver from the front. The handle, once pulled will remain open and cannot be reset without utilizing the screwdriver.

The MS-400 Series pull stations are constructed of durable aluminium and finished in red enamel paint. An abrasion resistant label with large, raised letters provides clear legible instructions.

The MS-400 Series Pull Stations are available in many different configurations. The MS-401 is a single action, single stage pull station. The MS-402 (two stage) is similar to the MS-401 (single stage) except it contains an additional General Alarm (G.A.) N.O. switch. For safety reasons, the G.A. switch is only accessible after the handle has been pulled. A special key is supplied with each unit. Models MS-405 and MS-407 are both single stage pull stations. The MS-405 has an additional N.O. switch while the MS-407 has an additional N.C. switch. Models MS-406 and MS-408 are both two stage pull stations. The MS-406 has an additional N.O. switch while the MS-408 has an additional N.C. switch.

## Features

- Durable Extruded Aluminium Construction
- Attractive, Low Profile Design
- Standard Single Gang Mount
- Converts to Double Action
- Glass Rod Optional (one provided)

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All pull stations can be easily converted from a single action to a double action station with the addition of the MS-DA double action lever.

## Operation

Pulling on the station's handle will release the internal switch to trigger the alarm detection circuit.

The MS-402, MS-406 and MS-408 (two stage versions) also provide a key switch which is accessible after the handle has been pulled. Operation of the key switch, when connected to a separate general alarm circuit, will initiate the 2nd stage of a two stage alarm signalling system.

## Specifications

The manual pull station shall be Mircom's MS-400 Series. Operating instructions shall be in raised English and French lettering and the unit shall be constructed of extruded aluminium and finished in red enamel paint to provide quick identification. Pulling the handle shall initiate immediate operation of the alarm detection circuit. In addition, those stations installed in a two stage system shall come equipped with an internal key switch designed to operate the 2nd stage alarm initiating circuit. All manual fire alarm stations shall be installed as per the specific requirements outlined in the ULC codes, as well as all other applicable national or local codes.



CS837

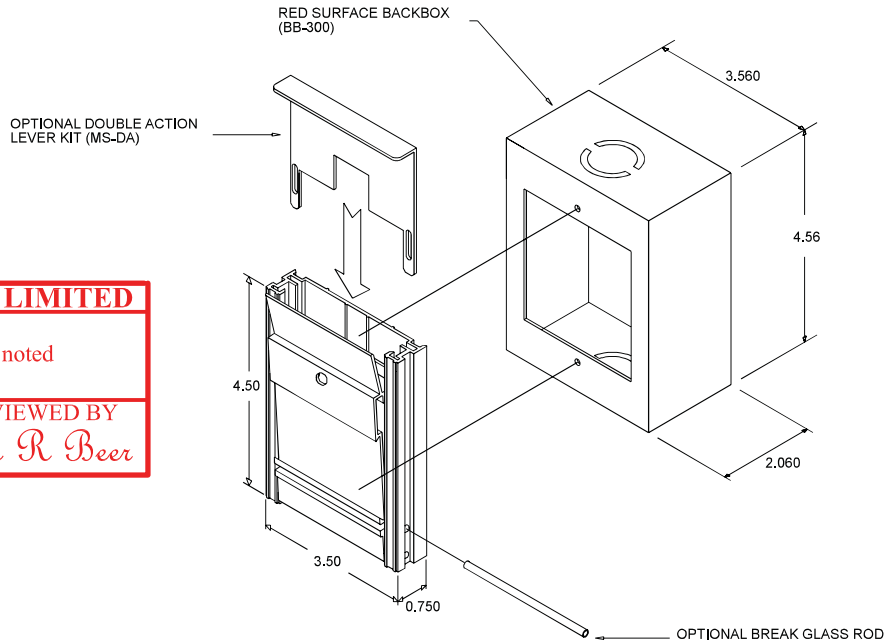
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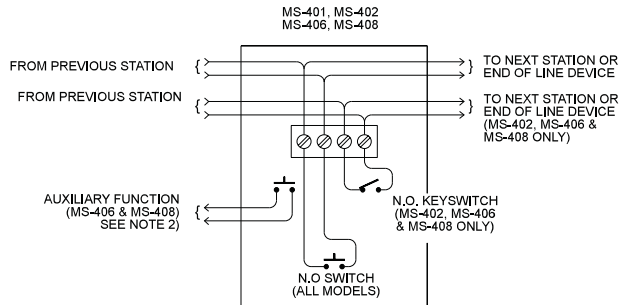
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## Dimensions

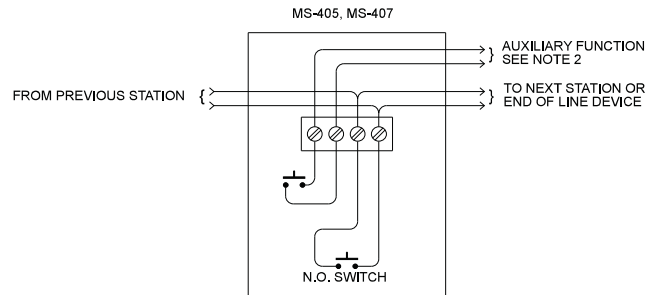
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## Wiring Diagrams



- NOTES:
1. WIRE AS SHOWN SO THAT SUPERVISION OF CONNECTIONS IS MAINTAINED.
  2. N.O. SWITCH FOR MODEL MS-406
  3. MOUNT STATION TO 2" X 4" X 2 1/4" OUTLET BOX.
  4. SWITCH RATING: ALL MODELS 1A @ 30 VDC



- NOTES:
1. WIRE AS SHOWN SO THAT SUPERVISION OF CONNECTION IS MAINTAINED.
  2. N.O. SWITCH FOR MODEL MS-405
  3. MOUNT STATION TO 2" X 4" X 2 1/4" OUTLET BOX.
  4. SWITCH RATING: ALL MODELS 1A @ 30 VDC

## Ordering Information

Model	Description
MS-401	Single Stage Pull Station
MS-402	Dual Stage Pull Station
MS-405	Single Stage Pull Station with additional N.O. Switch
MS-406	Dual Stage Pull Station with additional N.O. Switch
MS-407	Single Stage Pull Station with additional N.C. Switch
MS-408	Dual Stage Pull Station with additional N.C. Switch
MS-DA	Double Action Lever Kit (converts any of the above to double action stations)

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CAT. 5101  
Rev. 5

# INTELLIGENT LOW PROFILE SENSORS

# MIX-200 SERIES

Mircom's MIX-200 Series intelligent plug-in smoke detectors with integral communication provide features that surpass conventional detectors. Detector sensitivity is continuously monitored and reported to the FX-2000 Fire Alarm Control

Panel. Point ID capability allows each detector's address to be set with decade address switches, providing exact detector locations for selective maintenance when chamber contamination reaches an unacceptable level.



### Intelligent Low Profile Ionization Smoke Sensor (MIX-1251B)

The Intelligent Ionization Smoke Sensor is constantly monitored to measure any change in its sensitivity due to the environment (dirt, aging, temperature, humidity, etc.) It can give an advance indication to the FX-2000 analog control panel of the need for maintenance and can be specific as to where the maintenance is needed. It can be mounted in a number of different bases. See the Ordering Information for a list of these bases and their descriptions.



### Intelligent Low Profile Photoelectronic Smoke Sensor (MIX-2251B)

The Intelligent Photoelectronic Smoke Sensor is constantly monitored to measure any change in its sensitivity due to the environment (dirt, aging, temperature, humidity, etc.) It can give an advance indication to the FX-2000 analog control panel of the need for maintenance and can be specific as to where the maintenance is needed. It can be mounted in a number of different bases. See the Ordering Information for a list of these bases and their descriptions.



### Intelligent Thermal Sensors (MIX-5251B, MIX-5251RB, MIX-5251H)






The Intelligent Thermal Sensors contain a dual thermistor sensing circuit for fast response. They provide open area protection with 50 foot spacing. The sensors rapid response characteristic virtually eliminates the thermal lag which is characteristic of conventional heat detectors and insures operation as soon as the temperature reaches its set point (MIX-5251B), or upon a temperature rise of 15°F per minute (MIX-5251RB). The MIX-5251H provides fixed high temperature detection at 190°F. These sensors can be mounted in a number of different bases. See the Ordering Information for a list of these bases and their descriptions.



### Intelligent Low Profile Photoelectronic Smoke Sensor with Thermal (MIX-2251TB)

The MIX-2251TB has the same features as the MIX-2251B and includes a 135°F thermal sensor. It can be mounted in a number of different bases. See the Ordering Information for a list of these bases and their descriptions.

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 S6295 (MIX-1251B, MIX-2251B & MIX-2251TB) S6299 (MIX-5251B/RB/H)	 S6965 (MIX-1251B, MIX-2251B & MIX-2251TB) S7498 (MIX-5251B/RB/H)	 7271-1477:122 (MIX-1251B) 7271-1477:117 (MIX-2251B/TB) 7271-1477:114 (MIX-5251B/RB/H)	 148-03-E (MIX-1251B) 219-02-E (MIX-2251B/TB) 390-02-E (MIX-5251B/RB/H)	<b>MSFM</b> approved 2151 (MIX-1251B) 2131 (MIX-2251B/TB)	 APPROVED 3017996
--	---	---	--	--	--

CATALOG NUMBER **5904**

NOT TO BE USED FOR INSTALLATION PURPOSES.

## Specifications

### Height

2.0 inches (51 mm)

### Diameter

6.1 inches (155 mm) Installed in B210LP Base

4.1 inches (104 mm) Installed in B501 Base

### Shipping Weight

Heat: 4.8 oz. (137 g)

Photo/Photo with Heat: 5.2 oz. (147 g)

Ion: 5.4 oz. (154 g)

### Operating Temperature Range

Ion/Photo: 32°F to 120°F (0°C to 49°C)

Photo with Thermal: 32°F to 100°F (0°C to 38°C)

Thermal: -4°F to 100°F (-20°C to 38°C)

High Temperature: -4°F to 100°F (-20°C to 66°C)

### UL Listed Velocity Range

Ion: 0 - 1200 fpm (0 - 5.1 m/sec)

Photo/Photo with Thermal: 0 - 4000 fpm (0 - 20 m/sec)

### Relative Humidity

10% - 93% noncondensing

### Insect Screen Hole Size

Photo: 0.016 inch (0.41mm) nominal

Ion: 0.035 inch (0.89mm) nominal

### Thermal Ratings

Fixed Temperature Setpoint: 135°F (57°C)

Rate of Rise Detection: 15°F/min. (8.3°C/min.)

High Temperature: 190°F (88°C)

### Voltage Range

15 - 32 volts DC peak

### Standby Current

#### ***Ion/Thermal:***

150 uA @ 24 VDC (without communication, LED off)

200 uA @ 24 VDC (one communication every 5 sec. with LED enabled)

#### ***Photo/Photo with Thermal:***

250 uA @ 24 VDC (without communication, LED off)

300 uA @ 24 VDC (one communication every 5 sec. with LED enabled)

### LED Current (max.)

6.5 mA @ 24 VDC (on)

**Note:** Mounting sensors outside of the specified temperature ranges will cause sensor failures and erratic panel operation.

## Ordering Information

### Model

### Description

#### Intelligent Addressable Analog Sensors

MIX-1251B Intelligent Low Profile Ionization Smoke Sensor

MIX-2251B Intelligent Low Profile Photoelectronic Smoke Sensor

MIX-2251TB Intelligent Low Profile Photoelectronic Smoke Sensor c/w 135°F Fixed Temp. Thermal Sensor

MIX-5251B Intelligent Low Profile Fixed Temp. Thermal Sensor 135°F

MIX-5251RB Intelligent Low Profile Fixed Temp. and Rate of Rise Thermal Sensor 135°F

MIX-5251H Intelligent Low Profile High Temperature Thermal Sensor 190°F

#### Intelligent Analog Bases

B210LP Intelligent Flanged Mounting Base

B224BI Intelligent Isolator Base

B224RB Intelligent Relay Base\*

B501 Intelligent Flangeless Mounting Base

B501BH Intelligent Sounder Base

B501BHT Intelligent Temporal Tone Sounder Base

#### Accessories

RA-400Z Remote LED Annunciator

**Note:** For Canadian models add suffix "A".

\* When used with the M500X Fault Isolator Module, the number of relay bases between fault isolators is limited to 12.

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CAT. 5904  
Rev. 5

## MOUNTING BASES

## 200 SERIES

Mircom's mounting bases and kits provide a variety of ways to install detectors in any application.

The MIX-200 Series detectors can be mounted in either flanged or flangeless bases depending on the junction box selection.



### B501 Flangeless Mounting Base

The B501 is standard base with no flange.



### B501BH Sounder Base

The B501BH Sounder Base provides a built-in sounder which can be used for evacuation purposes.



### B210LP Flanged Mounting Base

The B210LP is a low profile mounting base with a flange.



### B224RB Relay Base

The B224RB Relay Base provides one form C relay contact for control of auxiliary functions such as damper control and elevator recall.



### B224BI Isolator Base

The B224BI Isolator Base allows loops to continue to operate under fault conditions and automatically restore when the fault is removed.

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CATALOGUE NUMBER **5906**

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## Specifications

### Base Specifications

**Diameter**  
4.0" (102 mm); flangeless  
6.1" (155 mm); flange

**Height**  
1.2" (31 mm)

**Wire Gauge**  
12 - 22 AWG

**Temperature Range**  
32°F to 120°F (0°C to 49°C)

**Humidity Range**  
10% to 93% RH noncondensing

### B224RB/B224BI Electrical Ratings

**Operating Voltage**  
15 to 32 VDC

**Standby Ratings**  
<500 µA maximum @24 VDC

**Set Time**  
4 sec. minimum, 20 sec. maximum

**Reset Time**  
1 sec. minimum, 8 sec. maximum

#### Relay Characteristics (relay base only)

2 coil latching relay  
1 Form C contact  
Resistive contact rating: 2 A @ 30 VDC  
Inductive contact rating:  
0.3 A @ 110 VDC (with .35 pF or greater),  
0.3 A @ 120 VAC (with .35 pF or greater),  
1.0 A @ 30 VDC (with .6 pF or greater)

### B501BH/B501BHT Electrical Ratings

**External Supply Voltage**  
17 to 32 VDC

**Standby Current**  
1.0 mA max.

**Alarm Current**  
15 mA max.

**Maximum Ripple Voltage**  
10% of supply voltage

**Start-up Capacitance**  
200 µF

**Sound Output**  
Greater than 90 dBA measured in anechoic room at 10 feet, 24 volts. 85 dBA minimum in UL reverberant room.

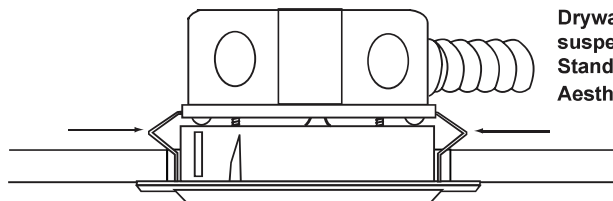
## 200 Series Junction Box Selection Guide

Model	Single Gang	3½" Octagon	4" Octagon	4" Square	4" Square*	50 mm	60 mm	70 mm	75 mm
B501	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes
B210LP	Yes	Yes	Yes	Yes	Yes	No	No	No	No
B224RB	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
B224RBI	No	Yes	Yes	Yes	No	No	No	Yes	Yes
B501BHT	No	No	No	Yes	No	No	No	No	No

\*with 3.0 .mud ring

**Note:** Box depth contingent on base and wire size. Refer to National Electric Code or applicable local codes for appropriate recommendations.

## Recessed Mounting Kit Product Overview



**Drywall or suspended ceiling  
Standard junction boxes  
Aesthetically pleasing**

Used with B501, the RMK400 provides a simple installation solution in applications that demand a lower profile smoke detector. **Uses.** Kit is suitable for use with 4" octagon, 50mm, and 60mm junction boxes connected to flexible conduit. Junction boxes are not included in kit.

**Note:** Not listed for use with MIX-1251(A).

## Ordering Information

Model	Description	Agency Listing
B501	Flangeless Mounting Base	UL, ULC, FM, CSFM, MEA
B210LP	Flanged Mounting Base	UL, ULC, FM, CSFM, MEA
B501BH	Sounder Base	UL, ULC, CSFM, MEA, SSL
B501BHT	Temporal Tone Sounder Base	UL
B224RB	Relay Base	UL, ULC, CSFM, MEA
B224BI	Isolator Base	UL, ULC, CSFM, FM, MEA
RA400Z	Remote LED Annunciator	

**Note:** For Canadian models add suffix "A".

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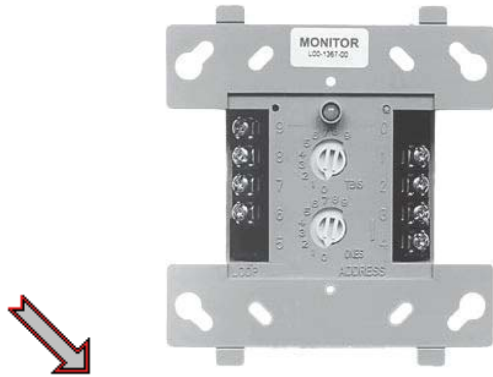


CAT. 5906  
Rev. 4

## INTELLIGENT ADDRESSABLE MODULES MIX-500 SERIES

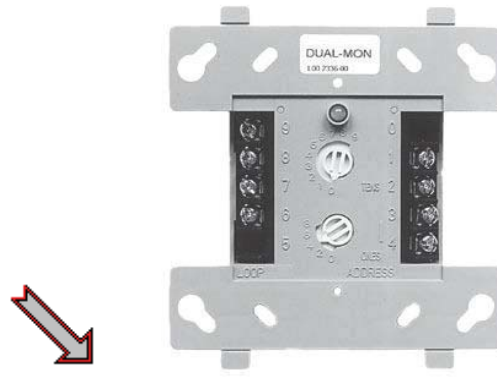
Mircom's intelligent module products are designed to meet a wide range of applications. The monitor and control modules can be used to supervise and activate sounders, strobes, door closers, pull

stations, waterflow switches, conventional smoke detectors and more. The modules are addressed with easy-to-use rotary code switches and mount in a standard 4" x 4" x 2 1/8" junction box.



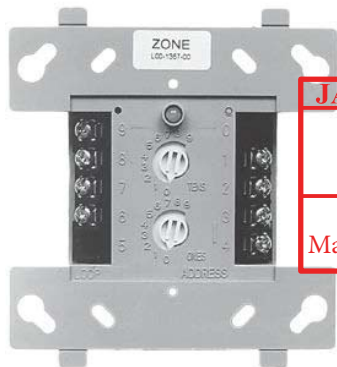
### Intelligent Addressable Monitor Module (MIX-M500M)

The Intelligent Addressable Monitor Module (MIX-M500M) provides an address for a group of UL/ULC Listed normally open (N.O.) initiating devices, such as heat detectors, beam smoke detectors, 4-wire smoke detectors, waterflow switches, manual pull stations, etc. wired in a Class A (Style D) or Class B (Style B) initiating circuit. The MIX-M500M has an activated red LED.



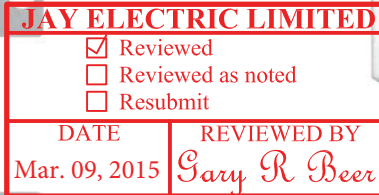
### Intelligent Addressable Dual Monitor Module (MIX-M500DM)

The Intelligent Addressable Dual Monitor Module (MIX-M500DM) provides two independent 2-wire initiating device circuits at two separate, consecutive addresses. It is capable of monitoring two separate Class B (Style B) circuits simultaneously, making it ideal for water flow and tamper switch monitoring. The MIX-500DM has a single activated red LED that is common to either circuit.



### Intelligent Addressable Interface Module (MIX-M502M)

The MIX-M502M provides the same features as the MIX-M500M but also allows for the use of multiple, conventional 2-wire smoke detectors in the circuit. This module requires a resettable signal power source. The MIX-M502M internally supervises the separate power source. The red LED indicates when the module is activated. All two-wire detectors that are monitored must be UL/ULC compatible with the MIX-M502M module.



### Intelligent Addressable Mini-Monitor Module (MIX-M501M)

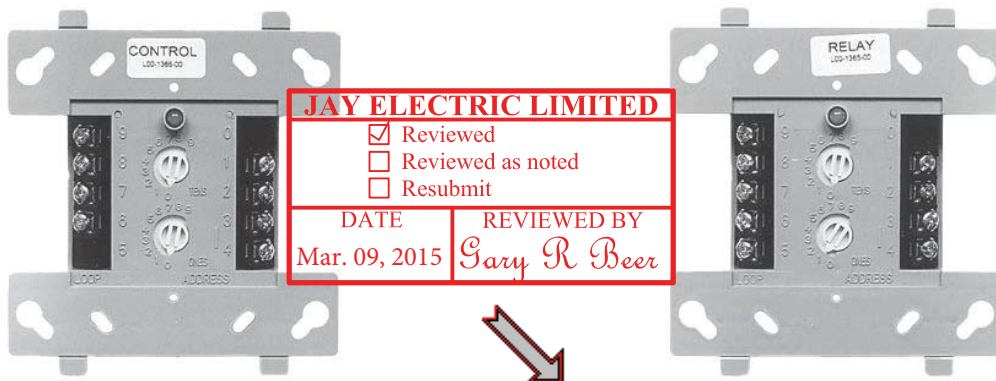
The Intelligent Addressable Mini Monitor Module provides an address for a group of UL/ULC Listed Normally Open (N.O.) initiating devices, such as heat detectors, projected beam smoke detectors, 4-wire smoke detectors, waterflow switches, manual pull stations, etc. wired in a Class B (Style B) initiating circuit.



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### Intelligent Addressable Supervised Control Module (MIX-M500S)

The MIX-M500S Control module provides supervised monitoring of wiring to signal devices that require an external power supply to operate, such as horns, strobes, bells or speaker isolators. Conventional signals will require a 24 VDC power source and speakers will require an audio input. The MIX-M500S does not supervise the power source. A UL/ULC EOL relay such as the A77-716B(A) is required. The red LED will illuminate when the module is activated. The module is capable of Class A (Style Z) or Class B (Style Y) supervision.



### Intelligent Addressable Relay Module (MIX-M500R)

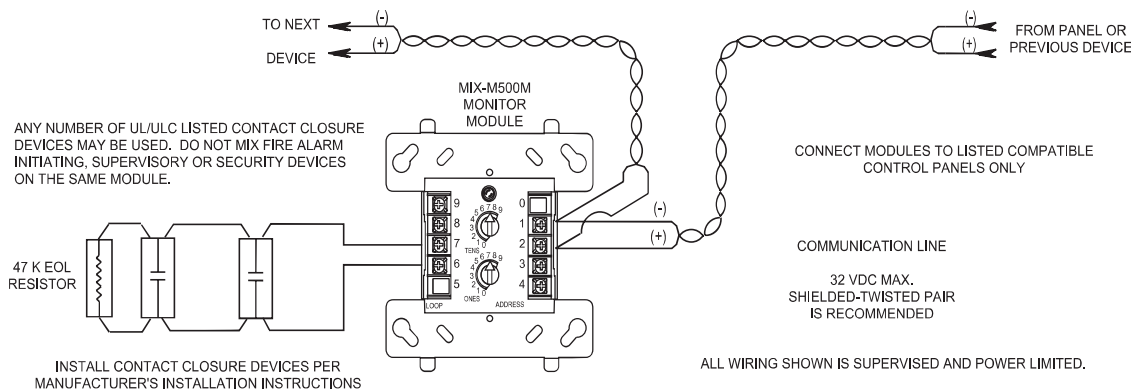
The Intelligent Addressable Relay Module connects to the same loop as the initiating devices and provides two isolated sets of Form-C contacts. The module allows the FX-2000 fire alarm control panel to switch these contacts on command. The MIX-M500R has an activated red LED which follows the state of the relay contacts.

### Fault Isolator Module (M500X)

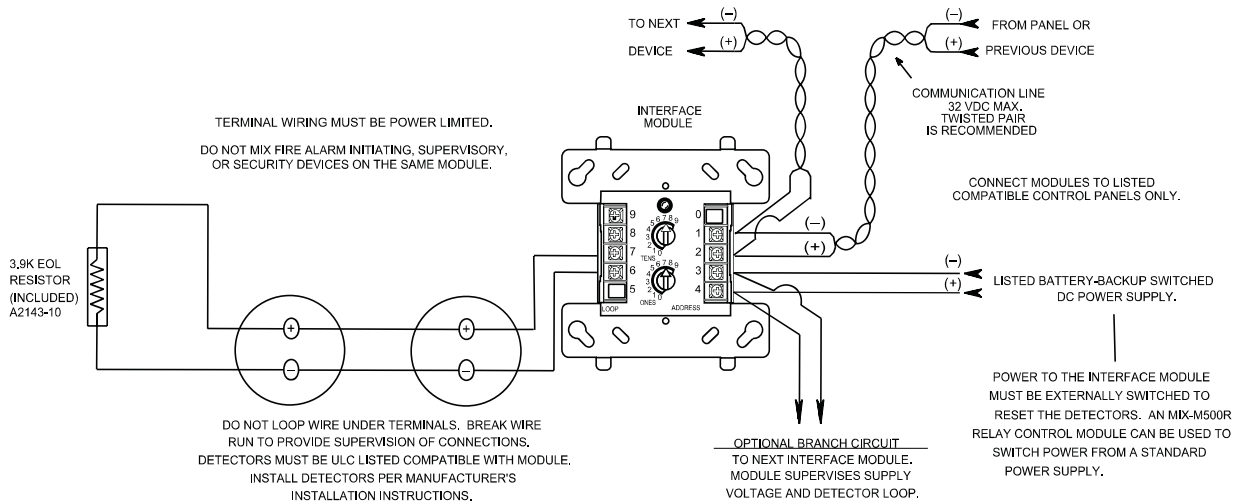
The M500X Fault Isolator Module is used to protect the system against wire-to-wire short circuits on the analog loop. The modules should be spaced between groups of sensors or modules in a loop to protect the rest of the loop. In the event of a short circuit between any two fault isolator modules, both modules immediately switch to an open circuit condition and isolate any group of sensors between them. The remaining units on the circuit will continue to operate in a normal fashion (must be wired in Class 'A' or Style 6). A maximum load of 25 devices can be connected to an isolator to insure that the isolator powers up correctly.

## Typical Wiring Diagrams

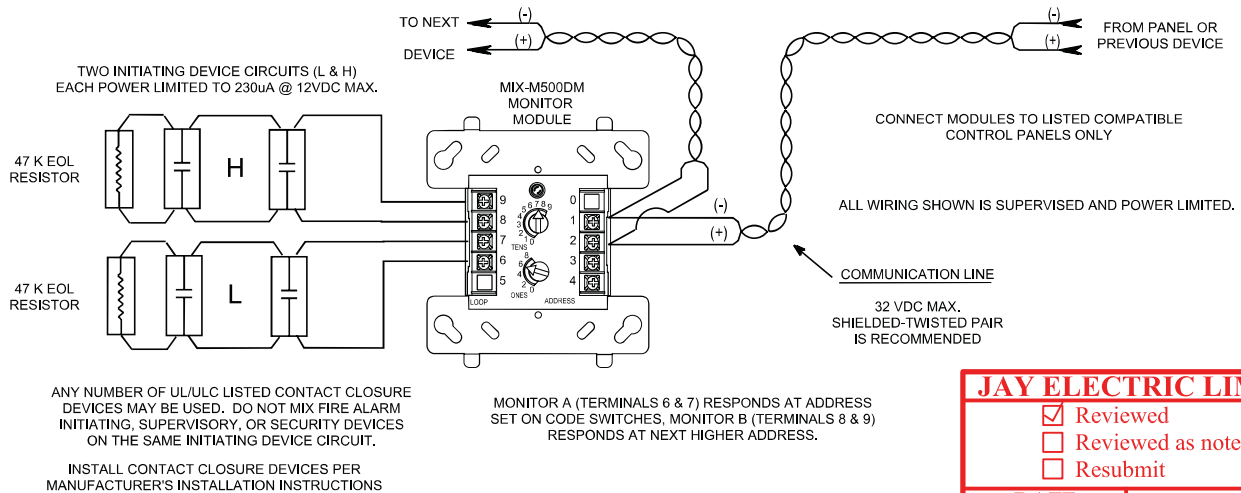
### MIX-M500M Typical 2-wire initiating circuit configuration, Class B (NFPA Style B)



## MIX-M502M Interface two-wire conventional detectors, Class B (NFPA Style B)

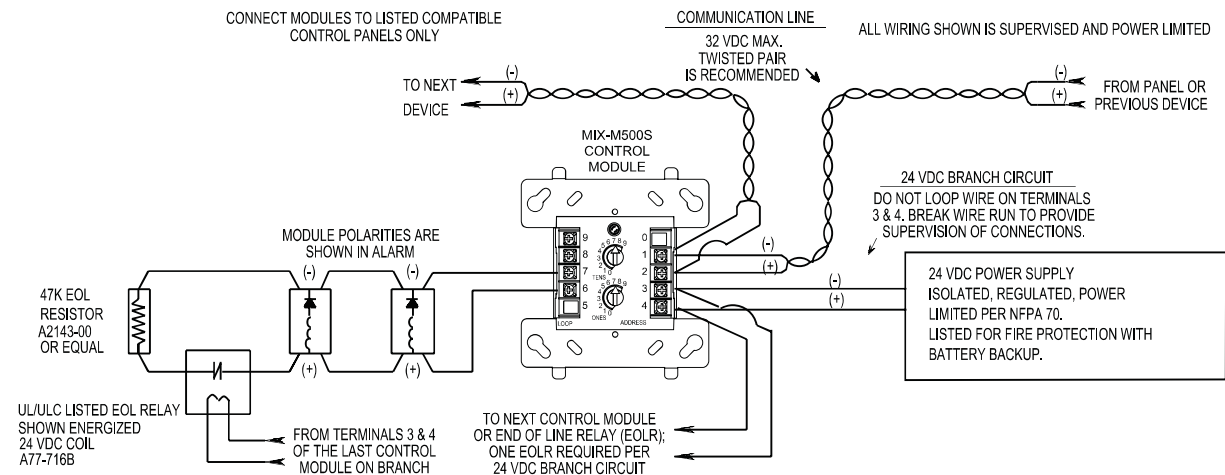


## MIX-M500DM Typical 2-wire initiating circuit configuration, Class B (NFPA Style B)

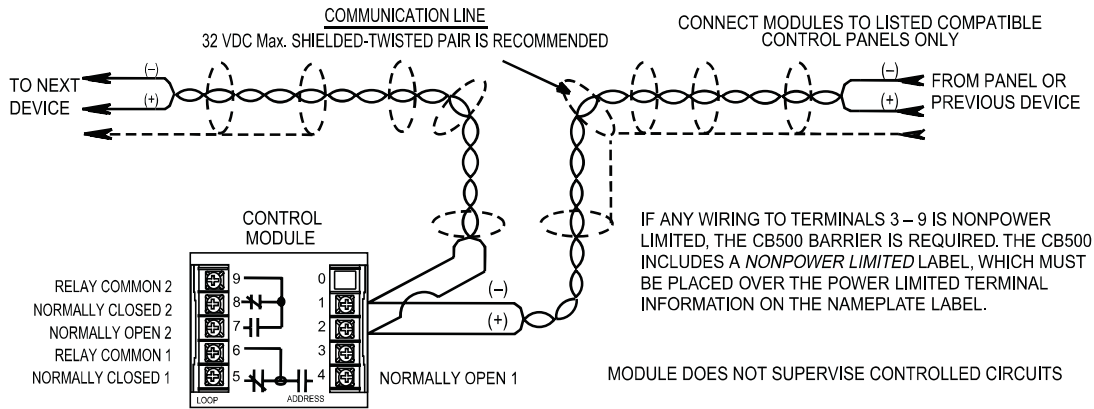


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## MIX-M500S Typical indicating circuit configuration, Class B (NFPA Style Y)



## MIX-M500R Typical Relay Module Configuration



### General Specifications

#### Operating Voltage

15-32 VDC

#### Communication Line Loop Impedance

40 .max.

#### Temperature Range

32° to 120°F (0° to 49°C)

#### Relative Humidity

10% to 93%: noncondensing

#### Dimensions

MIX-M501M: 1.7"H x 2.7"W x 0.5"D

Others: 4.65"H x 4.25"W x 1.1"D

#### Shipping Weight

M501M: 1.2 oz (37g)

Others: 6.3 oz (196g)

### MIX-M500M, MIX-M500S, MIX-M501M Specifications:

#### Standby Current

400  $\mu$ A max @ 24 VDC (one communication every 5 sec. with 47k EOL)

550  $\mu$ A max @ 24 VDC (one communication every 5 sec. with EOL<1k)

5.5 mA (with LED latched on)

#### End-of-Line Resistance

47 k (included)

### MIX-M502M Specifications:

#### Standby Current

300  $\mu$ A max @ 24 VDC (one communication every 5 sec. with LED enabled)

#### External Power Supply

18-28 VDC (100 mV ripple max.)

#### End-of-Line Resistance

3.9 k (included)

#### External Supply Standby Current

11.5 mA @ 24 VDC (nominal)

#### External Supply Alarm Current

80 mA @ 24 VDC (nominal)

### MIX-M500DM Specifications:

#### Standby Current

750  $\mu$ A max. @ 24 VDC (one communication every 5 sec. with 47k EOL)

#### Alarm Current

970  $\mu$ A max. (one communication every 5 sec.)

6 mA (with LED latched on)

#### End-of-Line Resistance

47 k (two included)

### MIX-M500R Specifications:

#### Standby Current

300  $\mu$ A @ 24 VDC (one communication every 5 sec. with LED enabled)

#### LED Current

5.5 mA (with LED latched on)

#### Relay Contact Ratings

3.0 A @ 30 VDC resistive

0.9 A @ 110 VDC resistive

0.9 A @ 125 VAC resistive

0.5 A @ 125 VAC inductive (PF=.35)

0.7 A @ 75 VAC inductive (PF=.35)

### M500X Specifications:

#### Standby Current

450  $\mu$ A max

#### Isolation Current

5 mA max

#### Fault Detection Delay

250 ms min.

#### Fault Detection Threshold

4 Volts

#### Line Restoration Threshold

7 Volts

*Note: Mounting modules outside of the specified temperature range may cause module failure and erratic panel operation.*

## Ordering Information

MIX-M500M	Intelligent Addressable Monitor Module
MIX-M501M	Intelligent Addressable Mini-Monitor Module
MIX-M502M	Intelligent Addressable Interface Module
MIX-500DM	Intelligent Dual Monitor Module
MIX-M500S	Intelligent Addressable Supervised Control Module
MIX-M500R	Intelligent Addressable Relay Module
M500X	Fault Isolator Module

**Note:** For Canadian models add suffix "A".

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CAT. 5903  
Rev. 4



**Description**

The InnovairFlex DNR intelligent non-relay photoelectric duct smoke detector and DNRW watertight non-relay photoelectric duct smoke detector feature a pivoting housing that fits both square and rectangular footprints capable of mounting to a round or rectangular duct.

DNRW duct smoke detector, with its NEMA 4 rating, is listed as a watertight enclosure providing protection against falling dirt, rain, and windblown dust, splashing and hose directed water, allowing operators to use the detector in the most extreme environments.

These units sense smoke in the most challenging conditions, operating in airflow speeds of 100 to 4000 feet per minute, temperatures of -4°F to 158°F, and a humidity range of 0 to 95 percent (non-condensing).

An improved cover design isolates the sensor head from the lowflow feature for simple maintenance. A cover tamper feature was added to indicate a trouble signal for a removed or improperly installed sensor cover. The InnovairFlex housing provides a 3/4 inch conduit knockout and ample space to facilitate easy wiring and mounting of relay module.

The InnovairFlex duct smoke detector can be customized to meet local codes and specifications without additional wiring. The new InnovairFlex product line is compatible with all previous Innovair models, including remote test accessories.

**WARNING:** Duct smoke detectors have specific limitations.

DUCT SMOKE DETECTORS ARE:

- NOT** a substitute for an open area smoke detector,
- NOT** a substitute for early warning detection, and
- NOT** a replacement for a building's regular fire detection system.

Refer to NFPA 72, 90A and CAN/ULC S524 for additional duct smoke detector application information.

**Features**

- Photoelectric, integrated low-flow technology
- Air velocity rating from 100 ft/min to 4000ft/min (0.5m/s to 20.32m/sec)
- Versatile mounting options: square or rectangular configuration
- Broad ranges for operating temperature (-4°F to 158°F) and humidity (0% to 95% non-condensing)
- Patented sampling tube installs from front or back of the detector with no tools required
- Cover tamper signal
- Increased wiring space with a newly added 3/4-inch conduit knockout
- Available space within housing to accommodate mounting of relay module
- Easily accessible code wheels on photoelectric sensor head (sold separately)
- Clear cover for convenient visual inspection
- Remote testing capability
- Requires com line power only
- NEMA Type 4 UL listed for non-hazardous indoor and outdoor applications (DNRW only)
- UV Resistant, UL listed housing and cover material (DNRW only)

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**Architectural/Engineering Specifications**

The air duct smoke detector shall be a System Sensor InnovairFlex™ DNR Intelligent Non-Relay Photoelectric Duct Smoke Detector and DNRW Watertight NEMA4 Duct Smoke Detector. The detector housing shall be UL listed per UL 268A specifically for use in air handling systems. The flexible housing of the duct smoke detector fits both square and rectangular footprints. The detector shall operate at air velocities of 100 ft/min to 4000 ft/min (0.5 m/sec to 20.32 m/sec). The unit shall be capable of providing a trouble signal in the event that the sensor cover is removed or improperly installed. It shall be capable of local testing via magnetic switch or remote testing using the RTS151KEY remote test station. Terminal connections shall be of the strip and clamp method suitable for 12–18 AWG wiring.



Physical Specifications	
<b>Size: (Rectangular)</b>	14.38 in (37 cm) Length; 5 in (12.7 cm) Width; 2.5 in (6.36 cm) Depth
<b>Size: (Square)</b>	7.75 in (19.7 cm) Length; 9 in (22.9 cm) Width; 2.5 in (6.35 cm) Depth
<b>Weight:</b>	1.6 lb (0.73 kg)
<b>Operating Temp. Range:</b>	-4°F to 158°F (-20°C to 70°C)
<b>Storage Temp. Range:</b>	-22°F to 158°F (-30° to 70°C)
<b>Operating Humidity Range:</b>	0% to 95% relative humidity non-condensing
<b>Air Duct Velocity:</b>	100 to 4000 ft/min (0.5 to 20.32 m/sec)

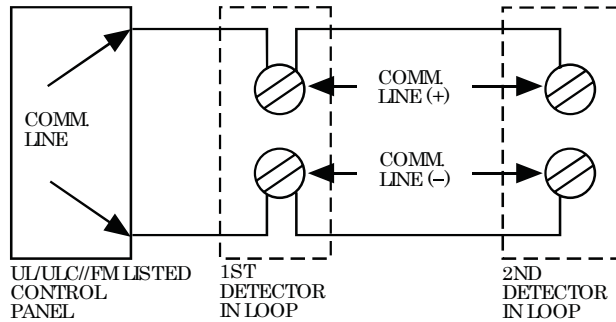
Accessory Current Loads @ 24 VDC		
Device	Standby	Alarm
RA100Z(A)	0 mA	12 mA Max.
RTS151 / RTS151KEY(A)	0 mA	12 mA Max.

### Installing the InnovairFlex Sampling Tube



The InnovairFlex sampling tube may be installed from the front or back of the detector. The tube locks securely into place and can be removed by releasing the front or rear locking tab.

### DNR(A) Wiring Diagram



### Accessories

A variety of accessories are available, including remote test stations, and several different means of visible and audible system annunciation.



**RTS151**  
Remote Test Station



**RTS151KEY**  
Remote Test Station  
with Key



**RA100Z**  
Remote Annunciator

### Ordering Information

Model	Description
DNR*	Intelligent non-relay photoelectric low-flow duct smoke detector housing. Requires photoelectric smoke detector (sold separately).
DNRW	Watertight intelligent non-relay photoelectric low-flow duct smoke detector housing. (UL Listed only) Requires photoelectric smoke detector (sold separately).
MIX-2251B*	Addressable low-profile photoelectric smoke detector
MIX-2251BR*	Remote test capable addressable low-profile photoelectric smoke detector
<b>Accessories</b>	
DCOIL	2-wire remote test coil required with RTS151/RTS151KEY
DST3	Metal sampling tube duct widths 2 ft to 4 ft (0.6 to 1.2 m)
DST5	Metal sampling tube duct widths 4 ft to 8 ft (1.2 to 2.4 m)
DST10	Metal sampling tube duct widths 8 ft to 12 ft (2.4 to 3.7 m)
ETX	Metal exhaust tube duct width 1ft (0.3m)
DH400OE-1	Weatherproof Enclosure
RA100Z*	Remote annunciator alarm LED
RTS151	Remote test station
RTS151KEY*	Remote test station with key lock

\* Add suffix "A" for Canadian models.

**Note:** DNR(W) duct detectors with a date code of 0013 or higher do not require a DCOIL or auxiliary 24VDC for remote test applications when used with a remote test capable smoke detector. DNR(W) duct detectors with a data code of 0012 or earlier require a DCOIL and auxiliary power for remote test applications.

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 **Mircom™**

**Canada**

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## GEO-DDH-1 DUCT SMOKE DETECTOR HOUSING



### Features

- Manufactured from heavy duty 12GA. Steel
- Durable grey finish
- Designed for exterior use
- Optional heater available

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### Description

The GEO-DDH-1 Duct Smoke Detector Housing was designed with exterior use and durability in mind. It is manufactured from 12GA steel and has a durable grey finish.

This product is completely suited for harsh exterior environments, with it's heavy duty spot welded construction and it's weather proof gasket on the lid.

In conditions where cold is a major factor, an optional housing heater is available. This housing has been designed to accommodate most duct smoke detectors.

The GEO-DDH-1 Duct Smoke Detector Housing is the ultimate in exterior purpose smoke detector housings.

### Standard Housing

DDH-001

### Dimensions

Width: 20-1/2" (521mm)

Height: 11-1/2" (292mm)

Depth: 7-1/4" (184mm)



### Housing with Heater

DDH-001

PS-3B

TH-101

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 Rev. 0

## Features

- Standard and moisture-proof versions available
- Low profile design
- White plastic housing (standard versions only)
- Open or closed contact versions available
- Available in single or multiple circuit versions
- Product Includes a 5 year warranty

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Model CR-135W



Model CR-135MP



7270-1110:0100



LISTED  
S2406



## Description

The CF/CR Series includes standard heat detectors as well as specialty versions for hazardous or moisture-proof applications. Each detector is available in single or multiple circuits with open and/or closed contact configurations. CF/CR Series detectors are available in 135°, 165°, 200°, and 285° Fahrenheit versions.

### • CF Series

The CF Series detectors are Fixed Temperature only. They will operate when the detector reaches the applicable temperature. Fixed Temperature detectors are non-restorable.

### • CR Series

The CR Series detectors are combination Rate-of-Rise and Fixed Temperature. The Rate-of-Rise function allows the detector to operate when the temperature at the detector increases at a rate of 15°F per minute. The Fixed Temperature portion will cause the detector to operate when it reaches the applicable temperature. The Rate-of-Rise portion of the detector is restorable; however the Fixed Temperature portion is non-restorable.

### • MP Versions

Both the CF and CR detectors are available in MP (modified pigtail) versions for enhanced protection against moisture-laden environments.

## CAUTION

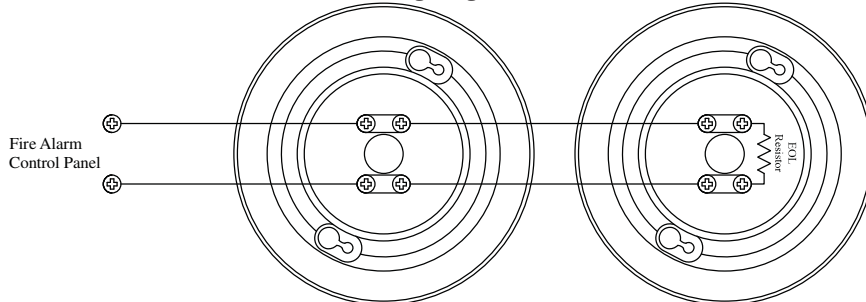
All wiring must be installed in compliance with the local electrical code using approved cable, AWG 18 minimum. Begin electrical connections by stripping approximately 1" (2.5 cm) from the end of each wire. Insert the stripped end into the wire-retaining hole in the terminal bar, wrap clockwise around the terminal screw, and tighten. Circuit wiring must be broken at each terminal to ensure proper supervision.

## Technical Specifications

Dimensions	5.25" x 2"
Device Weight	0.41 lbs (0.19 kg)
Shipping Weight	0.6 lbs (0.3 kg)
Materials	Standard Detectors - Plastic MP Detectors - Aluminum
Contact Ratings	3 Amps at 125VAC 1 Amp at 28VDC 0.3 Amps at 125VDC
Environmental Limitations	-20°F (-30°C) - 250°F (120°C) Exclusive of Operating Temperature
Mounting	4" Octagon Backbox

## Installation

**Wiring Diagram**



**Mounting**



Devices mount on a 4" octagon backbox. The provided mounting ring covers wall imperfections.

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## Engineering Specifications

Thermoflex® Model CR Series Automatic Rate-of-Rise Heat Detectors shall be installed in areas where ambient temperatures do not exceed 100°F. In areas where ambient temperature is above 100°F but will not exceed 150°F, specify CR-165 units. If ambient temperatures exceed 150°F, specify CR-200 or CF-285. In areas where sudden increases in ceiling temperature are normal, specify fixed temperature only units, with fusable settings of 135°F, 165°F, 200°F, or 285°F. The rate-of-rise operation responds to temperature increases of 15°F (8.4°C) per minute. Thermoflex® detectors shall be installed in areas where environmental conditions including dust, vapors, insects, etc. would cause an ionization or photoelectric type detector to initiate a false alarm.

## Ordering Information

Model	Description	Stock Number	Operating Temperature	Maximum Installation Temperature	Spacing*
CR-135W	Fixed/ROR, Indoor	1000140	135°F (57°C)	100°F (37.8°C)	70' (21m)
CR-165W	Fixed/ROR, Indoor	1000122	165°F (71°C)	140°F (60°C)	70' (21m)
→ CR-200W	Fixed/ROR, Indoor	1000141	200°F (93°C)	160°F (71°C)	70' (21m)
CF-135W	Fixed, Indoor	1000142	135°F (57°C)	100°F (37.8°C)	40' (12m)
CF-165W	Fixed, Indoor	1000121	165°F (71°C)	140°F (60°C)	25' (7.5m)
CF-200W	Fixed, Indoor	1000143	200°F (93°C)	160°F (71°C)	25' (7.5m)
CF-285W	Fixed, Indoor	1000152	285°F (140°C)	225°F (107.2°C)	25' (7.5m)
→ CR-135MP	Fixed/ROR, Outdoor	1000137	135°F (57°C)	100°F (37.8°C)	70' (21m)
CR-165MP	Fixed/ROR, Outdoor	1000162	165°F (71°C)	100°F (37.8°C)	70' (21m)
CR-200MP	Fixed/ROR, Outdoor	1000139	200°F (93°C)	150°F (65.6°C)	70' (21m)
CF-135MP	Fixed, Outdoor	1000136	135°F (57°C)	100°F (37.8°C)	40' (12m)
CF-200MP	Fixed, Outdoor	1000138	200°F (93°C)	150°F (65.6°C)	25' (7.5m)
CF-285MP	Fixed, Outdoor	1000125	285°F (140°C)	225°F (107.2°C)	25' (7.5m)

\* Assumes a flat, uninterrupted ceiling at a height not exceeding 10'3m

For closed circuit versions, add a "C" to model (for example: CF-135CW, CR-135CW, etc.)

For dual circuit versions, add a "2" to model (for example: CF-135-2-W, CR-135-2-W, etc.)

For other available models contact customer service



**Features**

- 25 & 70 volt line matching transformers
- High dBA output (over 90 dBA at 10 feet @ 2 watts)
- D.C. blocking capacitor for line supervision
- Terminal block connection for speaker tap/output selection
- Multiple output taps. Selection for ¼, ½, 1 or 2 watts
- Moisture resistant
- Fire retardant cone material
- Factory assembled and tested
- Each speaker is equipped with a ground wire
- Off white speaker baffle
- Round or square baffles

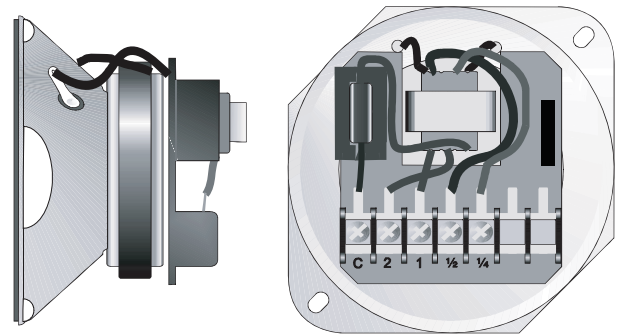
**Description**

Mircom's SP-Series 4" Speakers are designed for broadcasting high quality tone signals and are ideal for alarm signaling in hotels, malls, apartments and other areas where attractive appearance and dependable performance are prime concerns.

The SP-Series 4" Speakers consist of a loudspeaker, 6 oz. magnet, a low profile constant voltage line matching transformer, a D.C. blocking capacitor and an all steel speaker baffle finished in an off white colour. The 25 and 70 volt transformers are of the matching type and include output power taps of ¼, ½, 1 and 2 watt(s). Tap selection is made by wiring into the appropriate slot on the speaker's terminal block. The SP-Series speakers install easily using the surface or flush backboxes.

Mircom fire alarm speakers are specially designed for high quality emergency fire alarm signals and voice communication. These units must be used with Mircom's QX-5000 Voice Evacuation System or any voice alarm equipment approved by Underwriters Laboratories of Canada (ULC).

**Wiring Instructions**



Desired wattage is selected by wiring into the corresponding terminal on the speaker terminal block.

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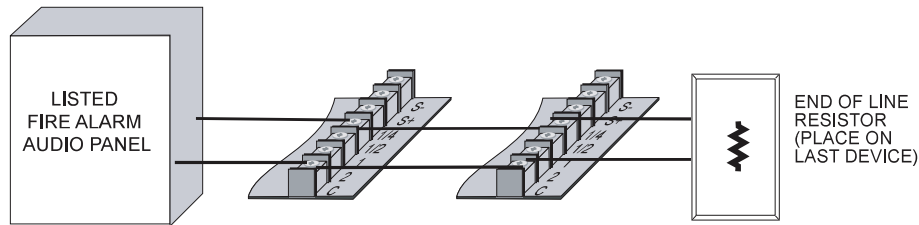
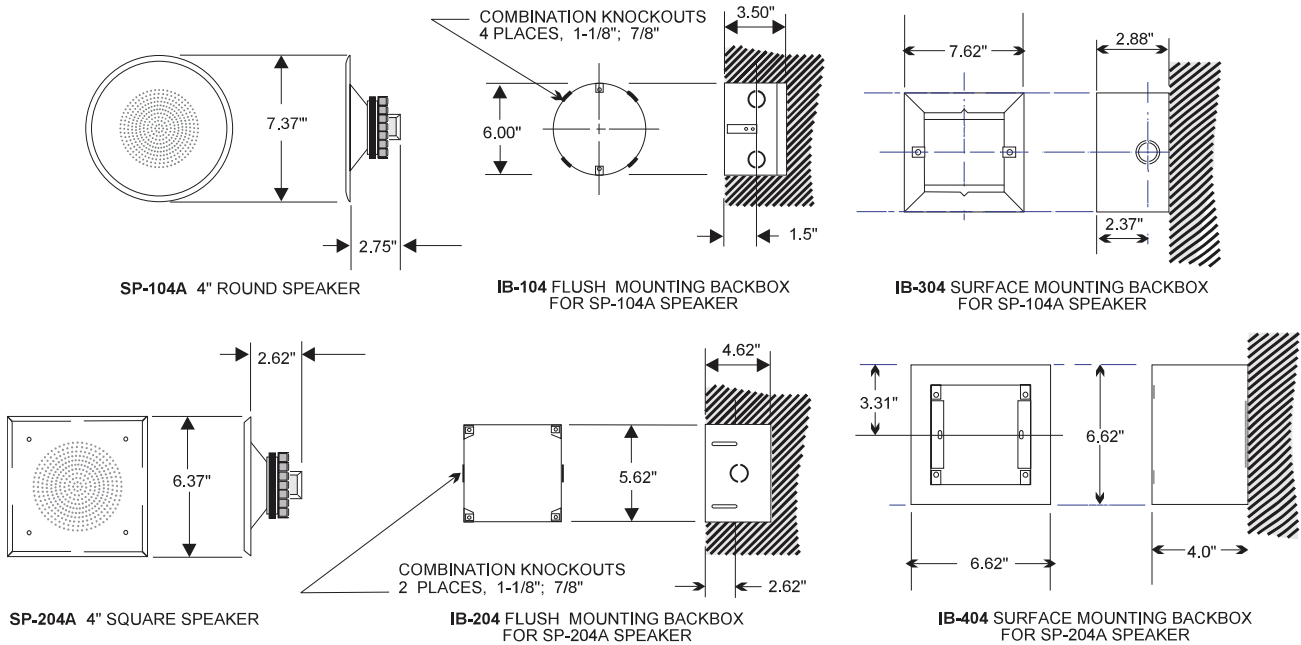
# Speaker Specifications

MODEL NUMBER	SPEAKER VOLTAGE	SPEAKER dBA 10 FT.				MOUNTING CONFIGURATIONS		BAFFLE SHAPE
		WATT TAP		TYPICAL dBA		FLUSH	SURFACE	
		¼ WATT	½ WATT	1 WATT	2 WATT			
SP-104A-25	25	85	86	89	91	IB-104	N/A	ROUND
SP-104A-70	70	85	86	89	91	IB-104	N/A	ROUND
SP-204A-25	25	85	86	89	91	IB-204	IB-404	SQUARE
SP-204A-70	70	85	86	89	91	IB-204	IB-404	SQUARE

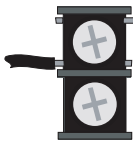
dBA Sound Pressure Level is measured using the transformer tap shown at a distance of 10 feet (3 meters). This measurement is obtained in accordance with ULC Standard CAN/ULC-S541-M87.

**NOTE: All Mircom enclosures are equipped with a ground screw hole. Each speaker unit is equipped with a ground wire.**

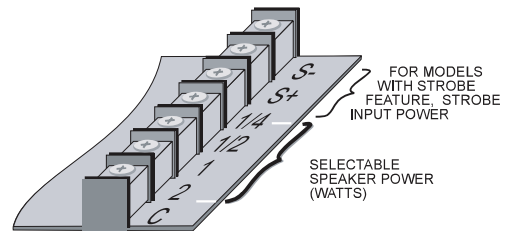
## Installation Instructions



### CAUTION



DO NOT LOOP SIGNAL CIRCUIT FIELD WIRES AROUND TERMINALS. ELECTRICAL SUPERVISION REQUIRES WIRE RUN TO BE BROKEN AT EACH END.



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## SPECTRALERT® ADVANCE SELECTABLE OUTPUT NOTIFICATION APPLIANCES



Indoor Wall Horn/Strobe



Indoor Ceiling Horn/Strobe



Indoor Ceiling Strobe



Indoor Wall Horn



Outdoor Ceiling Strobe



Outdoor Wall Strobe

### Features

- Plug-in design
- Same mounting plate for wall and ceiling mount units
- Shorting spring on mounting plate for continuity check before installation
- Captive mounting screw
- Tamper resistance capability
- Field selectable candela settings on wall and ceiling units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185
- Automatic selection of 12 or 24 volt operation at 15 and 15/75 candela
- Outdoor wall and ceiling products
- Outdoor products rated from  $-40^{\circ}\text{C}$  to  $66^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $151^{\circ}\text{F}$ )
- Design allows minimal intrusion into the back box
- Rotary switch for tone selection
- 3 horn volume settings
- Electrically compatible with existing SpectrAlert products
- Outdoor products rainproof per UL 50 (NEMA 3R)

### Description

System Sensor's SpectrAlert® Advance selectable-output horns, strobes and horn/strobes are rich with features guaranteed to cut installation times and maximize profits. The SpectrAlert Advance series of notification appliances is designed to simplify your installations, with features such as: plug in designs, instant feedback messages to ensure correct installation of individual devices, and eleven field-selectable candela settings for wall and ceiling strobes and horn/strobes.

When installing Advance products, first attach a universal mounting plate to a four-inch square, four-inch octagon or double-gang junction box. The two-wire mounting plate attaches to a single-gang junction box.

Then, connect the notification appliance circuit wiring to the SEMS terminals on the mounting plate.

Finally, attach the horn, strobe or horn/strobe to the mounting plate by inserting the product's tabs in the mounting plate's grooves. The device will rotate into position, locking the product's pins into the mounting plate's terminals. The device will temporarily hold in place with a catch until it is secured with a captured mounting screw.

### SpectrAlert Advance products offer the following options:

- 12 or 24 volts
- At 24 volts, 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177 or 185 candela by way of rear-mounted slide switch and front viewing window
- Horn tones and volume by way of rotary switch

The SpectrAlert Advance series includes outdoor notification appliances. Outdoor strobes and horn/strobes (two wire and four wire) are available for wall or ceiling. Outdoor horns are available for wall only. All System Sensor outdoor products are rated between  $-40^{\circ}\text{C}$  to  $66^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $151^{\circ}\text{F}$ ) in wet or dry applications.

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## Engineering Specifications

### General

SpectrAlert Advance horns, strobes and horn/strobes shall mount to a standard 4 × 4 × 11/2-inch back box, 4-inch octagon back box or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 17/8-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance products, when used with the Sync•Circuit Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt rated notification appliance circuit outputs shall operate between nine and 17.5 volts; 24-volt rated notification appliance circuit outputs shall operate between 17 and 33 volts. Indoor SpectrAlert Advance products shall operate between 0 and 49 degrees Celcius from a regulated DC, or full-wave rectified, unfiltered power supply. Strobes and horn/strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.

### Strobe

The strobe shall be a System Sensor SpectrAlert Advance Model \_\_\_\_\_ listed to UL 1971 and CAN/ULC S526 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

### Horn/Strobe Combination

The horn/strobe shall be a System Sensor SpectrAlert Advance Model \_\_\_\_\_ listed to UL 1971 and UL 464 and CAN/ULC S525 and S526 and shall be approved for fire protective service.

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

### Outdoor Products

SpectrAlert Advance outdoor horns, strobes and horn/strobes shall be listed for outdoor use by ULC and shall operate between -40°C to 66°C (-40°F to 151°F). The products shall be listed for use with a System Sensor outdoor/weatherproof back box with half inch and three-fourths inch conduit entries.

### Synchronization Module

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

## Specifications

Standard Operating Temperature	0°C to 49°C (32°F to 120°F)
K Series Operating Temperature	-40°C to 66°C (-40°F to 151°F)
Humidity Range	10 to 93% non-condensing (indoor products)
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12DC/FWR or regulated 24DC/FWR <sup>1</sup>
Operating Voltage Range <sup>2</sup>	8 to 17.5 V (12V nominal) or 16 to 33 V (24 nominal)

Input terminal wire gauge	12 to 18 AWG
Ceiling mount dimensions (including lens)	6.8" diameter × 2.5" high (173 mm diameter × 64 mm high)
Wall mount dimensions (including lens)	5.6"L × 4.7"W × 2.5"D (142 mm L × 119 mm W × 64 mm D)
Horn dimensions	5.6"L × 4.7"W × 1.3"D (142 mm L × 119 mm W × 33 mm D)

#### Notes:

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

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**Max. Strobe Current Draw (mA RMS)**

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

**Max. Horn Current Draw (mA RMS)**

Sound Pattern	dB	8–17.5 Volts		16–33 Volts	
		DC	FWR	DC	FWR
Temporal	High	57	55	69	75
Temporal	Medium	44	49	58	69
Temporal	Low	38	44	44	48
Non-temporal	High	57	56	69	75
Non-temporal	Medium	42	50	60	69
Non-temporal	Low	41	44	50	50
Coded	High	57	55	69	75
Coded	Medium	44	51	56	69
Coded	Low	40	46	52	50

**Rotary Horn and Horn/Strobe Switch Settings**

Setting	Repetition Rate	dB Level
1	Temporal horn	High
2	Temporal horn	Medium
3	Temporal horn	Low
4	Normal horn	High
5	Normal horn	Medium
6	Normal horn	Low
7*	Externally coded	High
8*	Externally coded	Medium
9*	Externally coded	Low

**Horn and Horn/Strobe Output (dBA - Anechoic Room)**

Switch Position	Sound Pattern	dB	8–17.5 Volts		16–33 Volts	
			DC	FWR	DC	FWR
1	Temporal	High	96	93	101	99
2	Temporal	Medium	89	89	95	95
3	Temporal	Low	86	87	91	92
4	Non-temporal	High	90	86	96	93
5	Non-temporal	Medium	82	82	90	89
6	Non-temporal	Low	79	80	86	86
7*	Coded	High	90	87	96	93
8*	Coded	Medium	82	82	90	89
9*	Coded	Low	78	80	86	86

\*Settings 7, 8, and 9 are not available on 2-wire horn/strobe.

**Max. Current Draw (mA RMS), 2-wire Horn/Strobe, Standard Candela Range (15–115 cd)**

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

**Max. Current Draw (mA RMS), 2-wire Horn/Strobe, High Candela Range (135–185 cd)**

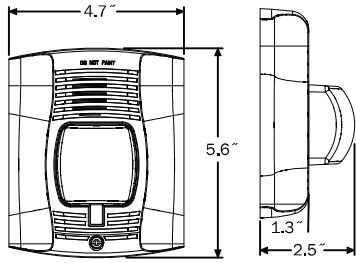
DC Input	16–33 Volts				FWR Input	16–33 Volts			
	135	150	177	185		135	150	177	185
Temporal High	245	259	290	297	Temporal High	215	231	258	265
Temporal Medium	235	253	288	297	Temporal Medium	209	224	250	258
Temporal Low	232	251	282	292	Temporal Low	207	221	248	256
Non-temporal High	255	270	303	309	Non-temporal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



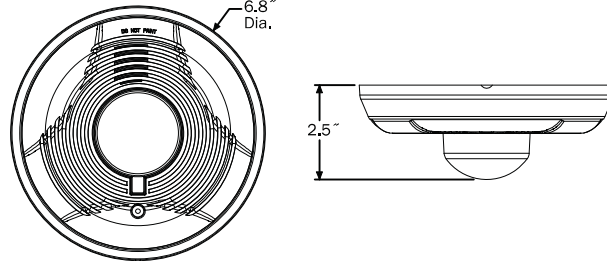
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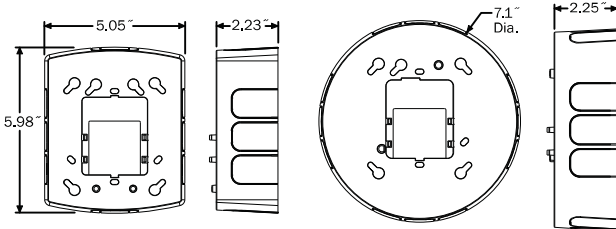
# SpectraAlert Advance Dimensions



Wall-mount horn/strobes

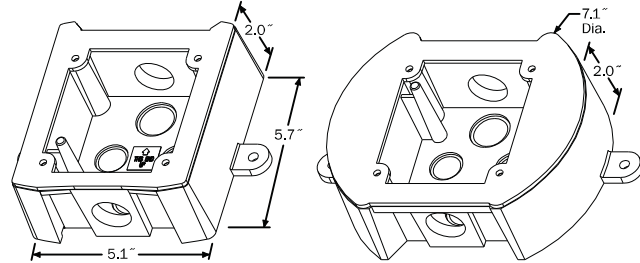


Ceiling-mount horn/strobes



Wall back box skirt

Ceiling back box skirt



Wall weatherproof back box

Ceiling weatherproof back box

## Ordering Information

Model	Description
<b>Wall Horn/Strobes</b>	
P2RA	2-wire Horn/Strobe, Standard cd, Red
P2RHA	2-wire Horn/Strobe, High cd, Red
P2RKA	2-wire Horn/Strobe, Standard cd, Red, Outdoor
P2RHKA	2-wire Horn/Strobe, High cd, Red, Outdoor
P2WA	2-wire Horn/Strobe, Standard cd, White
P4RA	4-wire Horn/Strobe, Standard cd, Red
P4RHA	4-wire Horn/Strobe, High cd, Red
P4RKA	4-wire Horn/Strobe, Standard cd, Red, Outdoor
P4RHKA	4-wire Horn/Strobe, High cd, Red, Outdoor
P4WA	4-wire Horn/Strobe, Standard cd, White
P4WHA	4-wire Horn/Strobe, High cd, White
<b>Wall Strobes</b>	
SRA	Strobe, Standard cd, Red
SRHA	Strobe, High cd, Red
SRKA	Strobe, Standard cd, Red, Outdoor
SRHKA	Strobe, High cd, Red, Outdoor
SWA	Strobe, Standard cd, White
SWHA	Strobe, High cd, White
<b>Ceiling Horn/Strobes</b>	
PC2RKA	2-wire Horn/Strobe, Standard cd, Red, Outdoor
PC2RHKA	2-wire Horn/Strobe, High cd, Red, Outdoor



Model	Description
<b>Ceiling Horn/Strobes (cont'd.)</b>	
PC2WA	2-wire Horn/Strobe, Standard cd, White
PC2WHA	2-wire Horn/Strobe, High cd, White
PC4RKA	4-wire Horn/Strobe, Standard cd, Red, Outdoor
PC4RHKA	4-wire Horn/Strobe, High cd, Red, Outdoor
PC4WA	4-wire Horn/Strobe, Standard cd, White
PC4WHA	4-wire Horn/Strobe, High cd, White
<b>Ceiling Strobes</b>	
SCRKA	Strobe, Standard cd, Red, Outdoor
SCRHKA	Strobe, High cd, Red, Outdoor
SCWA	Strobe, Standard cd, White
SCWHA	Strobe, High cd, White
<b>Horns</b>	
HRA	Horn, Red
HRKA	Horn, Red, Outdoor
HWA	Horn, White
<b>Accessories</b>	
BBS-2	Back Box Skirt, Wall, Red
BBSW-2	Back Box Skirt, Wall, White
BBSC-2	Back Box Skirt, Ceiling, Red
BBSCW-2	Back Box Skirt, Ceiling, White

For strobes and horn/strobes, add suffix "-F" for French or "-B" for bilingual.

**Notes:**

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

All outdoor units ending in "KA" include a weatherproof back box.

**NOT TO BE USED FOR INSTALLATION PURPOSES.**



**Canada**

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Vaughan, Ontario L4K 5W3  
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4575 Witmer Industrial Estates  
Niagara Falls, NY 14305  
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ISO 9001:2008  
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CAT. 5263  
Rev. 2

## Indoor Selectable Output Speaker Strobes and Dual Voltage Evacuation Speakers

The new SpectrAlert® Advance selectable output speaker strobes and evacuation speakers can reduce ground faults and allow faster installation.



**SPECTRAlert**  
**ADVANCE**  
from System Sensor

### Features

- Plug-in design
- Protective cover isolates speaker components, reduces ground faults
- Electrical compatibility with existing SpectrAlert products
- Field selectable candela settings on wall and ceiling units:  
 Standard: 15, 15/75, 30, 75, 95, 110, 115  
 High: 135, 150, 177, 185
- Shorting spring on mounting plate tests continuity before installation
- Rotary switch simplifies field selection of speaker voltage (25 and 70.7 Vrms) and power settings (¼, ½, 1 and 2 watts)
- Universal mounting plate for wall- and ceiling-mount units
- Compatible with System Sensor synchronization protocol
- SP speakers offer high fidelity sound output
- SPV speakers offer high volume sound output
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Ceiling and wall mount application
- Optional tamper resistant Torx head screw included

**The SpectrAlert Advance Series** of speakers and speaker strobes is designed to reduce ground faults. The plug-in design allows the installer to pre-wire mounting plates and dress the wires before plugging in the device. The plastic cover prevents nicked wires by covering exposed speaker components.

This design also provides faster installations with instant feedback to ensure that wiring is properly connected, rotary switches to select voltage and power settings, and 11 field selectable candela settings for wall and ceiling speaker strobes.

The low total harmonic distortion of the SP speaker offers high fidelity sound output while the SPV speaker offers high volume sound output for use in high ambient noise applications.

### SpectrAlert Advance makes installation easy

- Attach a universal mounting plate to a 4 × 4 × 2 1/8 inch back box .
- Connect the notification appliance circuit or speaker wiring to the terminals on the mounting plate.
- Attach the speaker or speaker strobe to the mounting plate by inserting the product tabs into the mounting plate grooves. Rotate the device into position to lock the product pins into the mounting plate terminals. The device will temporarily hold in place with a catch until it is secured with a captured mounting screw.

### Agency Listings



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# SpectrAlert Advance Speaker and Speaker Strobe Specifications

## Architectural/Engineering Specifications

### General

SpectrAlert Advance speaker and speaker strobes shall mount to a 4 x 4 x 2 1/8-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit and amplifier wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance speaker strobes, when used with the Sync-Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync-Circuit Module, 12-volt rated notification appliance circuit outputs shall operate between 9 and 17.5 volts; 24-volt rated notification appliance circuit outputs shall operate between 17 and 33 volts. Indoor SpectrAlert Advance products shall operate between 0°C and 49°C (32°F to 120°F) from a regulated DC, or full-wave rectified, unfiltered power supply. Speaker strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.

### Speaker

The speaker shall be a System Sensor SpectrAlert Advance model \_\_\_\_\_ dual-voltage transformer speaker capable of operating at 25.0 or 70.7 nominal Vrms. It shall be ULC listed. The speaker shall have a frequency range of 400 to 4000 Hz and shall have an operating temperature between 0°C and 49°C (32°F to 120°F). Speaker shall have power taps and voltage that are selected by rotary switches.

### Speaker Strobe combination

The speaker strobe shall be a System Sensor SpectrAlert Advance model \_\_\_\_\_ and shall be ULC listed. Speaker shall be capable of operating at 25.0 or 70.7 nominal Vrms selected via rotary switch, and shall have a frequency range of 400 to 4000 Hz. Speaker shall have power taps which are selected by rotary switch. The strobe shall comply with the NFPA72 requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

### Synchronization Module

The module shall be a System Sensor Sync-Circuit model MDLA listed to ULC. The module shall synchronize SpectrAlert strobes at 1Hz. The module shall mount to a 4 1/16 x 4 1/16 x 2 1/8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

## Physical Specifications

<b>Operating Temperature</b>	0°C to 49°C (32°F to 120°F)
<b>Humidity Range</b>	10 to 93% non-condensing
<b>Dimensions, Wall-Mount</b>	
<b>SPSV Speaker Strobe</b>	6.0 in L x 5.0 in W x 4.9 in D (including lens and speaker)
<b>SP Speaker</b>	6.0 in L x 5.0 in W x 2.8 in D
<b>SPSV Speaker</b>	6.0 in L x 5.0 in W x 2.9 in D
<b>Dimensions, Ceiling-Mount</b>	
<b>SPSV Speaker Strobe</b>	6.8 in Dia. x 4.8 in D (including lens and speaker)
<b>SP Speaker</b>	6.8 in Dia. x 2.8 in D
<b>SPV Speaker</b>	6.8 in Dia. x 2.9 in D

## Electrical/Operating Specifications

<b>Nominal Voltage (speakers)</b>	25 Volts or 70.7 Volts (nominal)
<b>Maximum Supervisory Voltage (speakers)</b>	50 VDC
<b>Strobe Flash Rate</b>	1 flash per second
<b>Nominal Voltage (strobes)</b>	Regulated 12 VDC/FWR or regulated 24 DC/FWR
<b>Operating Voltage Range (includes fire alarm panels with built in sync)</b>	8 to 17.5 V (12 V nominal) or 16 to 33V (24 V nominal)
<b>Operating Voltage with MDLA Sync Module</b>	9 to 17.5 V (12 V nominal) or 17 to 33V (24 V nominal)
<b>Frequency Range</b>	400 to 4000 Hz
<b>Power</b>	1/4, 1/2, 1, 2 watts

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## Current Draw Data

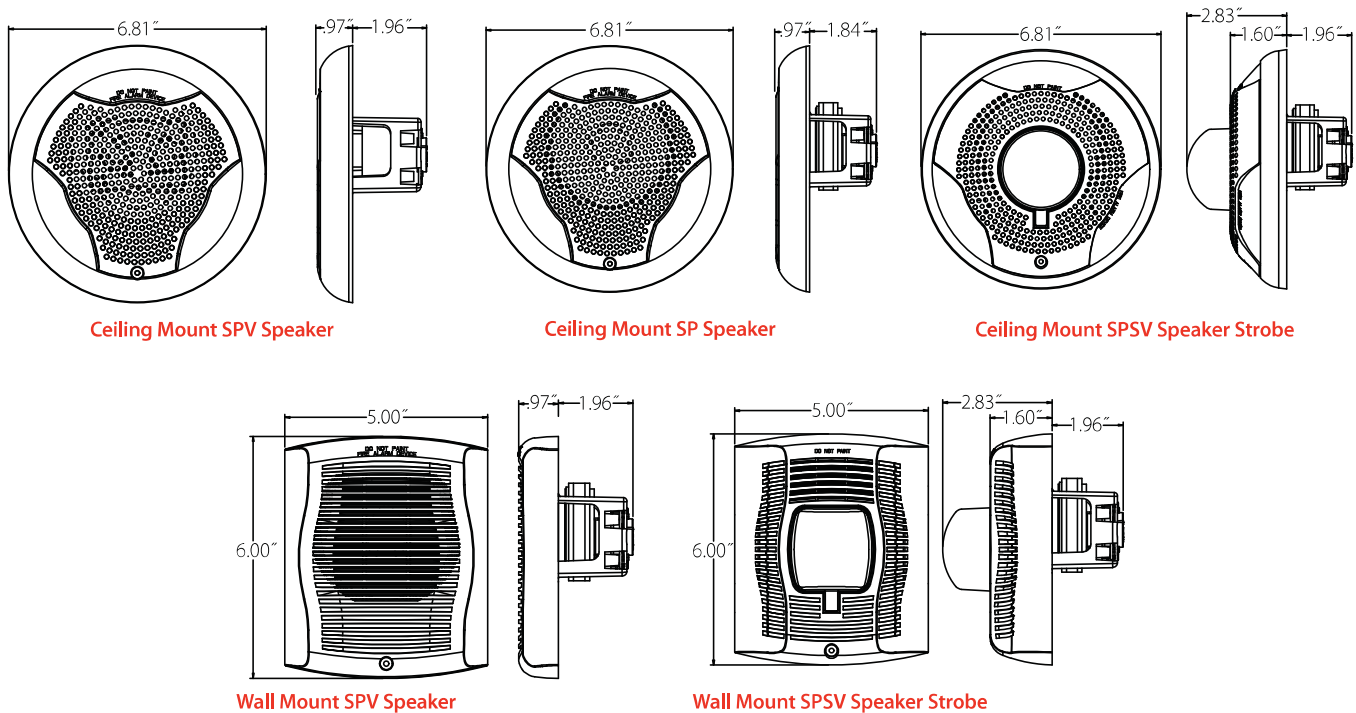
Max. Strobe Current Draw (mA RMS)					
	Candela	8 to 17.5 Volts		16 to 33 Volts	
		DC	FWR	DC	FWR
<b>Standard</b>	15	123	128	66	71
<b>Candela Range</b>	15/75	142	148	77	81
	30	NA	NA	94	96
	75	NA	NA	158	153
	95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
<b>High</b>	135	NA	NA	228	207
<b>Candela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

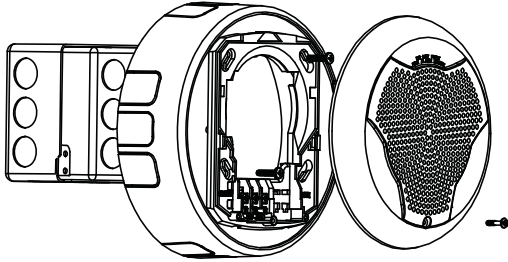
Sound Output				
ULC Anechoic (dBA @ 10 ft.)	2W	1W	½ W	¼ W
Wall Mount SP Series	86	83	80	77
Wall-Mount SPV Series	91	88	85	82
Ceiling-Mount SPC Series	86	83	80	77
Ceiling-Mount SPCV Series	91	88	85	82
Wall-Mount SPSV Series	88	85	82	79
Ceiling-Mount SPSCV Series	88	85	82	79

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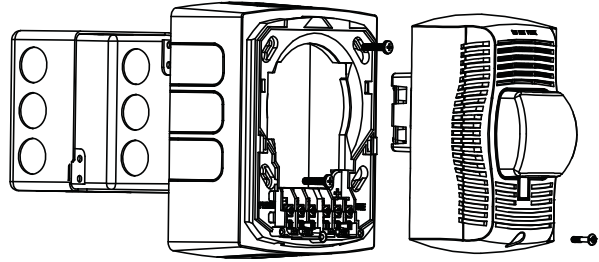
## Dimensions



## Surface Mounting



Ceiling Mount Speaker with SPBBSCW Back Box Skirt



Wall Mount Speaker Strobe with SPBBS Back Box Skirt

## Ordering Information for SpectrAlert® Advance Speakers and Speaker Strobes

### Wall Mount

White	Red	Description
SPWA	SPRA	Speaker only
SPWVA	SPRVA	Speaker only, High dB
SPSWVA*	SPSRVA*	Speaker Strobe, Selectable Candela (15, 15/75, 30, 75, 95, 110, 115), High dB

### Ceiling Mount

White	Red	Description
SPCWA	SPCRA	Speaker only
SPCWVA	SPCRVA	Speaker only, High dB
SPSCWVA*	SPSCRVA*	Speaker Strobe, Selectable Candela (15, 15/75, 30, 75, 95, 110, 115), High dB
SPSCWVHA*	SPSCRVHA*	Speaker Strobe, Selectable Candela, High dB, High cd (135, 150, 177, 185)

### Accessories

White	Red	Description
RFPW	RFP	7.5 in x 9.5 in Retrofit Plate
SPBBSCW	SPBBSC	Ceiling Mount Back Box Skirt
SPBBSW	SPBBS	Wall Mount Back Box Skirt
TRW	TR	Wall Mount Trim Ring
TRCW	TRC	Ceiling Mount Trim Ring

\* Add suffix -F for French, -B for Bilingual wording

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## Outdoor, Dual-Voltage Evacuation Speakers for Wall Applications

SpectrAlert® Advance outdoor, selectable output dual-voltage evacuation speakers meet virtually any outdoor application requirement.

**SPECTRAlert**  
**ADVANCE**

### Features

- Weatherproof per NEMA 4X, IP56
- Rated from -40°C to 66°C
- Plug-in design reduces ground faults
- Universal mounting plate with onboard shorting spring that tests wiring continuity before devices are installed
- Rotary switch for speaker voltage (25 and 70.7 Vrms) and power settings (1/4, 1/2, 1 and 2 watts)
- Tamper-resistant construction

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SpectrAlert Advance offers the broadest line of outdoor speakers in the industry. From metal and plastic outdoor back boxes, to white and red plastic housings, to wall and ceiling mounting options, SpectrAlert Advance can meet virtually any application requirement.

Wall-mount outdoor speakers can be used indoors or outdoors in wet or dry applications, and can provide reliable operation from -40°C to 66°C. These speakers provide a broad frequency response range, low harmonic distortion and maintain a high sound pressure level at all tap settings to provide accurate and intelligible broadcast of evacuation messages.

Like the entire SpectrAlert Advance line, wall-mount outdoor speakers include a variety of features that increase application flexibility and simplify installation. First, field-selectable settings, including, speaker voltage and power settings, and automatic selection of 12- or 24-volt operation enable installers to easily adapt devices to meet requirements.

Next, these devices use a universal mounting plate with an onboard shorting spring that ensures wiring continuity before devices are installed, so installers can verify proper wiring without mounting the devices and exposing them to potential construction damage. Once the plates are mounted, all SpectrAlert Advance devices utilize a plug-in design with a single captured screw to speed installation and virtually eliminate costly ground faults.

Outdoor devices ship with weatherproof plastic back boxes (metal back boxes are available separately) that accommodate in-and-out wiring for daisy chaining devices. Plastic back boxes feature removable side flanges and improved resistance to saltwater corrosion. Knock-outs located on the back eliminate the need to drill holes for screw-in mounting. Plastic and metal weatherproof back boxes come with 3/4-inch top and bottom conduit entries and 3/4-inch knock-outs at the back. A screw-in NPT plug with an O-ring gasket for a watertight seal is included with each back box.

### Agency Listings



# SpectrAlert® Advance Outdoor Speaker Specifications

## Architectural/Engineering Specifications

### General

SpectrAlert Advance outdoor speakers shall mount to a weatherproof back box. A universal mounting plate shall be used for mounting ceiling and wall products. The amplifier wiring shall terminate at the universal mounting plate. Outdoor SpectrAlert Advance products shall operate between -40°C to 66°C.

### Speaker

Speaker shall be a System Sensor SpectrAlert Advance Model \_\_\_\_\_ dual-voltage transformer speaker capable of operating at 25.0 or 70.7 nominal Vrms. Speaker shall be listed to CAN/ULC S541. Speaker shall have a frequency range of 400 to 4,000 Hz and shall have an operating temperature from -40°C to 66°C. Speaker shall have power taps and wattage settings that are selected by rotary switches. The speaker must be installed with its weatherproof back box in order to remain outdoor approved. The speaker shall be suitable for use in air handling spaces and wet environments.

## Physical Specifications

Operating Temperature	-40°C to 66°C (-40°F to 151°F)
Dimensions, Wall-Mount	152.4 mm L x 127 mm W x 71.9 mm D (6.0 in x 5.0 in x 2.83 in)
Dimensions, Wall-Mount Weatherproof Back Box	163.8 mm L x 139.2 mm W x 71.9 mm D (6.45 in x 5.48 in x 2.83 in)

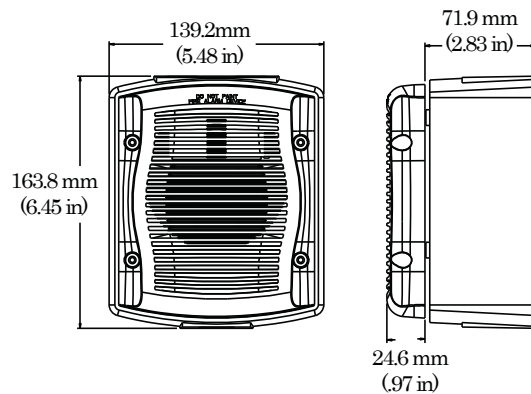
## Electrical/Operating Specifications

Nominal Voltage (speakers)	25 V or 70.7 V (nominal)
Maximum Supervisory Voltage (speakers)	50 VDC
Frequency Range	400 to 4,000 Hz
Power	¼, ½, 1, 2 watts

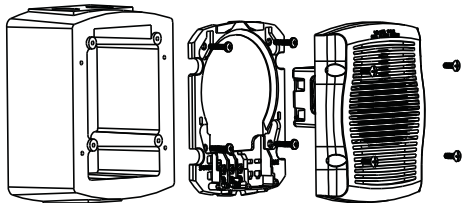
## Sound Output Data

Sound Output				
ULC ANECHOIC (dBA @ 10 ft.)	2W	1W	½ W	¼ W
Outdoor Speaker	91	88	85	82

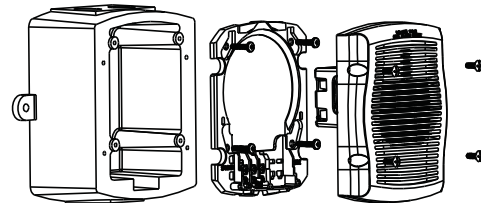
## Dimensions



## Surface Mounting



Wall-Mount Speaker with Plastic Weatherproof Back Box



Wall-Mount Speaker with Metal Weatherproof Back Box

## Ordering Information for SpectrAlert® Advance Outdoor Speakers

### Wall Mount

White	Red	Description
SPWKA*	SPRKA*	Outdoor Speaker (includes plastic weatherproof back box)

### Accessories

White	Red	Description
MWBBW	MWBB	Wall, Metal Weatherproof Back Box

### Notes:

\*Add "-R" to model number for weatherproof replacement device (no back box included), e.g., SPWK-R.

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

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## Sync•Circuit™ Module

The Sync•Circuit module synchronizes SpectrAlert® Advance strobes at 1 Hz and horns and chimes at temporal 3 over a single pair of wires. Patented module technology also allows the silencing of horns or chimes on horn/strobe and chime/strobe models over a pair of wires.



**SPECTRAlert**  
**ADVANCE**  
 from System Sensor

### Features

- Two-wire operation from module to the devices
- Silences horns and chimes over a two-wire loop
- Synchronizes strobes at 1 Hz
- Synchronizes horns and chimes to temporal 3 pattern
- Patented technology
- Interconnects modules for multiple zone synchronization
- Module controls two Style Y (Class B) circuits or one Style Z (Class A) circuit
- New NAC slave feature enables the interconnection of slave modules over a supervised NAC loop

**The MDL3 Module** is designed to work with the SpectrAlert and SpectrAlert Advance series of notification appliances to provide a means of synchronizing the temporal-coded horns and chimes, synchronizing the one-second flash timing of the strobe, and silencing the horns and chimes of the horn/strobe and chime/strobes combination over a two-wire circuit while leaving the strobes active.

**Application Flexibility.** The Sync•Circuit module is designed to power and synchronize either two 3-amp circuits wired in Class B or one 3-amp circuit powered as Class A. Should more than two zones require synchronization, additional modules can be added by interconnecting the “slave” input and output terminals between modules.

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### Agency Listings



# Sync-Circuit™ Module Specifications

## Architectural/Engineering Specifications

Synchronization Circuit Module shall be a System Sensor Sync-Circuit Model \_\_\_\_\_ listed to UL 464 and UL 1971 and shall be approved for fire protective service. The module shall synchronize SpectraAlert® or SpectraAlert Advance strobes at 1 Hz and horns at temporal 3. Also, the module shall be capable of silencing the horns on horn/strobe models, while operating the strobes, over a single pair of wires. The module shall be capable of mounting to a 4 1/16" x 4 1/16" x 2 1/8" back box and shall control two Style Y (class B) or one Style Z (class A) circuit. The module shall be capable of multiple zone synchronization by connecting multiple modules (slaves) together. Slaves can be driven from either the slave output of a prior MDL3 or from the NAC output of the master. Using the NAC enables all wiring to be supervised, whereas the slave-out terminals are not supervised, so their use is confined to specific applications.

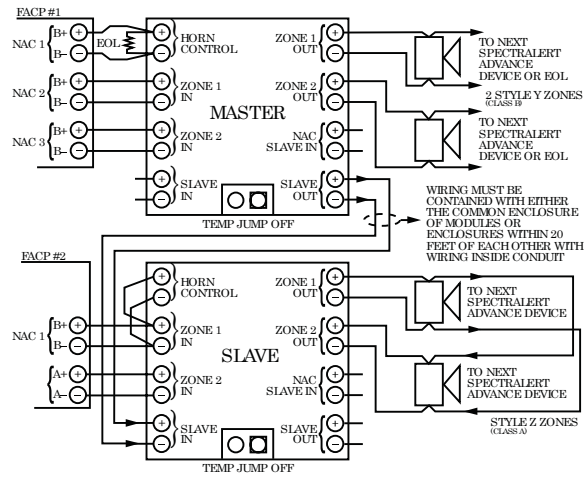
Note: The module shall not operate on a coded power supply.

## Physical Specifications

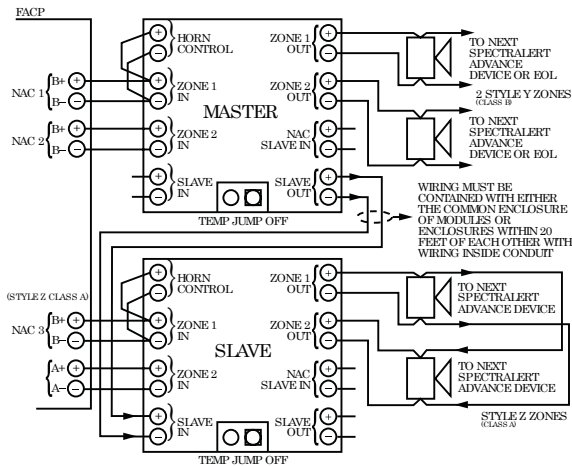
Dimensions	5 1/4" L x 5 1/4" W
Mounting	4 1/16" x 4 1/16" x 2 1/8" back box
Indoor Operating Temperature	32° to 120° F (0° to 49° C)
<b>Electrical/Operating Specifications</b>	
Operating Voltage	12 or 24 VDC and FWR unfiltered
Operating Voltage Range (12 V)	8.5 to 17.5 VDC
Operating Voltage Range (24 V)	16.5 to 33 VDC
Maximum Load on Loop	3 Amps/zone
U.S. Patent Nos.	5,598,139 5,850,178

# Horns and Chimes Silenced Over Two-Wire Circuit

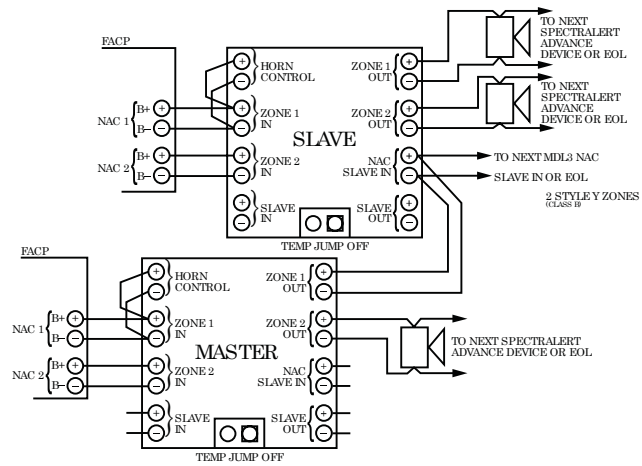
- Any mix of Horn/Strobes, Chime/Strobes or Strobe-only devices is acceptable
- Horn and chime control connects to interruptible power source



## Master-Slave Mode



## Master-Slave Using NAC-Slave Input



## Current Draw and Ordering Information

Red	White	Voltage	Average Current (mA)		Peak Current (mA)		In-rush Current (mA)		NACSlave Input (mA)	
			DC	FWR	DC	FWR	DC	FWR	DC	FWR
MDL3R,	MDL3W,	12	10	12	50	60	100	120	3.5	4
MDL3RA (Canadian)	MDL3WA (Canadian)	24	12	15	60	75	120	150	4.5	5



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# COMBINATION SMOKE CO ALARM

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SC9120A - 120V AC Wire-in

SC9120BA - 120V AC Wire-in w/ 9V Battery Back-up

## Features

## Benefits

Combination Smoke and CO in one unit

Combination smoke and CO alarm eliminates the need for two electrical boxes and features a permanently installed CO sensor and a dual ionization smoke sensor:

"Intelligent Sensing Technology"

Microprocessor controlled to reduce nuisance alarms.

Latching Alarm Indication

**Smoke alarm back up battery must meet the requirements as specified in Section 3.2.4.22, 5(c) of the 2012 OBC -**

When interconnected in a series, the unit that triggered the alarm rapidly flashes its red LED indicator. After the alarm condition subsides, the initiating unit will store in memory or "latch" the information and begin to flash the red LED indicator once every 5 seconds.

Single Button Test/Silence

Eliminates confusion. Depending on what mode the alarm is in, pushing the button will test, silence, or re-test the alarm when in silence and clear the latching feature.

Operates on 120VAC (9120BA) with 9V battery back-up

Keeps alarm working during a power failure.

Easy access side-load battery drawer (9120BA)

Battery installation and removal can occur while the unit is mounted to the ceiling or wall via the side load battery compartment.

"Perfect Mount" system

Features a gasketless base and a mounting bracket that keeps the alarm secure over a wide rotation range to allow for true alignment. This will allow fine-tuning on the positioning to compensate for out of aligned wall studs.

Interconnectable—up to 18 devices, of which 12 can be smoke alarms

Can be interconnected with up to 12 smoke alarms and the remaining six be combination units and / or RM4 relays.

"Quick-Connect" wiring harness

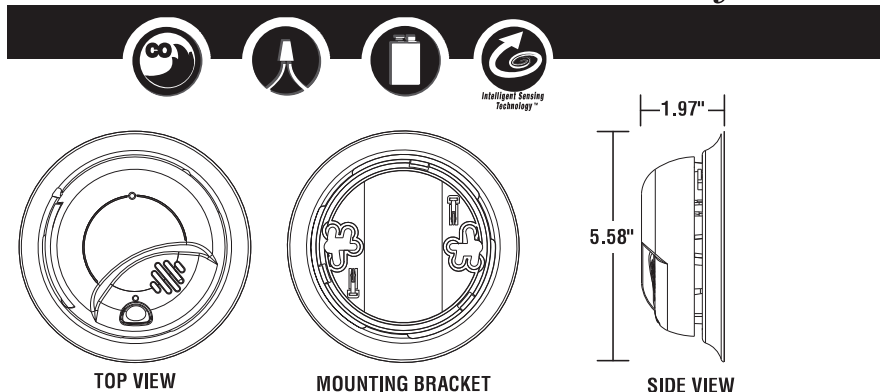
Provides quick and easy connection to AC power

Dicon Global Inc.  
88B East Beaver Creek Road, Unit 6  
Richmond Hill, Ontario Canada L4B 4W2  
info@diconglobal.com  
Tel: 905-482-3270 Fax: 905-731-8267



CAT **SC9120A - 120V AC, 60Hz, Wire-in**  
**SC9120BA - with 9 volt battery back-up**

**COMBINATION  
 SMOKE/ CO ALARM**



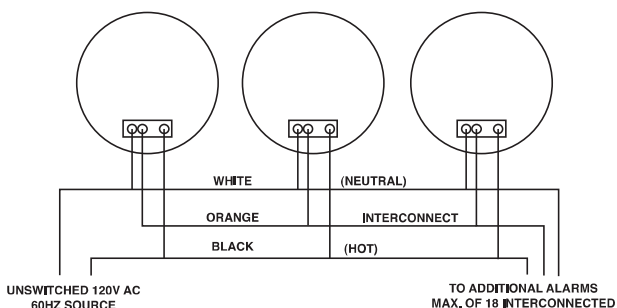
**Architectural and  
 Engineering Specifications**

The combination smoke & carbon monoxide alarm models SC9120A and SC9120BA shall be BRK Electronics® and shall provide at a minimum the following features and functions:

1. A permanently installed carbon monoxide sensor and a dual ionization smoke sensor.
2. Powered by 120V AC, 60Hz and have a monitored 9V battery back-up (only SC9120BA). In battery back-up mode, the battery must last for 8 hours minimum in standby and then 12 hours minimum in alarm.
3. A visual LED (green) power-on indicator to confirm unit is receiving AC power and a (green intermittent) indicator to confirm unit has switched to battery back-up mode. A red LED to indicate when in smoke alarm and another red LED to indicate when in CO alarm.
4. The CO sensor is adjusted not to detect CO levels below 30 PPM and will not alarm when exposed to constant levels of 30 PPM for 30 days. It will alarm at the following levels under 30% to 70% relative humidity: 400 PPM CO between 4 and 15 minutes, 150 PPM CO between 10 and 50 minutes and 70 PPM between 60 and 240 minutes.
5. A test/silence button to check all alarm functions and to silence any nuisance alarms. In addition, the unit shall have a low battery silence feature (SC9120BA only) to quiet the low battery chirp for up to eight hours.
6. The unit shall perform self diagnostic tests every second and issue a malfunction warning (three rapid chirps) if the unit malfunctions.
7. A solid state piezo horn rated at 85dB at 10 ft. that provides a repeating horn pattern. Smoke Alarm: continuous beeps; CO alarm: 4 rapid beeps, pause, 4 rapid beeps, pause.
8. The unit shall be capable of operating between 40°F (4°C) and 100°F (38°C) and relative humidity between 10% and 90%.
9. The unit shall center mount to any standard electrical junction box up to 4 inches diagonal without screw removal. Larger boxes may require an adapter plate.
10. The unit shall have an optional locking mechanism to deter theft of battery and/or theft of the unit.
11. The unit shall have a plug-in connector and be capable of interconnection of up to 18 alarms.
12. The unit shall have a gasketless base for easy installation and be capable of keeping the alarm secure over a wide rotation range to allow for true alarm alignment.
13. The unit shall at a minimum meet the requirements of ULC S-531-02 and CSA 6.19-01.

**Installation Of Combination Alarm**

Installation of this smoke alarm must conform to all local electrical codes and Canadian Electrical Code C22.1. Interconnected units must meet the following requirements: Total length of wire interconnecting units should be less than 1000 feet, be #18 gauge or larger and be rated at least 300V. It is recommended that all units be on the same fuse or circuit breaker.



**TECHNICAL SPECS :**

Alarm Dimensions	5.58" dia. x 1.97" H
Weight	8.5 oz.
Operating Voltage	120V AC 60Hz pure sine wave (SC9120A) w/9V battery backup (SC9120BA)
Operating Current	.09 amps (standby/alarm)
Temperature Range	40°F (4°C) to 100°F (38°C)
Humidity Range	10% to 90% relative humidity (RH)
Audio Alarm	85dB at 10 feet
Test Button	Electronically simulates a smoke or CO condition, causing the unit to alarm.
Alarm Reset	Automatic when smoke and/or CO clears. Press test/silence button to reset manually.
Interconnections	Up to 18 units of which 12 can be smoke alarms
Sensor	Dual ionization, CO sensor Metal Oxide
Indicator LEDs	AC Power: Constant Green LED DC Power (SC9120BA) : Intermittent Red LED Remote Alarm: Red LED out Local Alarm: Red LED flashes rapidly Latching Alarm: Red LED flashes 5 sec. after local alarm stops
Listing	ULC S-531-02, CSA 6.19-01

**SHIPPING SPECS :**

Individual Carton Dimensions	5.69" L x 2.25" W x 5.59" H
Weight	.63 lbs.
Cube	.04 ft <sup>3</sup>
UPC	0 29054 51306 9
Master Carton Dimensions	14.43" L x 6.19" W x 12.63" H
Master Pack	12
Weight	8.14 lbs
Cube	.65 ft <sup>3</sup>
UPC	100 29054 51306 6
Pallet Information	
Cases per Layer	19
Number of Layers	3
Cases per Pallet	57
Cube	42.2 ft <sup>3</sup>
Weight	464 lbs.

**JAY ELECTRIC LIMITED**

Reviewed  
 Reviewed as noted  
 Resubmit

DATE: Mar. 09, 2015  
 REVIEWED BY: Gary R Beer

Contact:  
 Dicon Global Inc.  
 88B East Beaver Creek Road, Unit 6  
 Richmond Hill, Ontario Canada L4B 4W2  
 info@diconglobal.com  
 Tel: 905-482-3270 Fax: 905-731-8267

# RELAY

CAT RM4



## ALARM RELAY

Activates auxiliary devices from smoke, CO and/or heat alarm signal.

## SMART INTERCONNECT

Works with all First Alert and BRK "Smart Interconnect" CO Alarms.

## MEETS UL STANDARDS

U217, U2034 and U539 for accessories.

## MEETS ULC STANDARDS

UCS-531, CSA6.19 and UCS-530 for accessories.

## FITS IN MOST STANDARD ELECTRICAL BOXES



Listed to  
UL 217 &  
UL 2034  
Standards

# BRK®

THE PROFESSIONAL STANDARD

120VAC, 60Hz Wire-in

Designed to activate an auxiliary device when an alarm is initiated. The RM4 Relay is intended for use with BRK and First Alert Smoke, Heat and Carbon Monoxide Alarms. The relay contacts will activate whenever any interconnected alarm sounds. The relay contacts will automatically deactivate a few seconds after the alarm stops sounding. The RM4 may be wired next to an AC alarm or from a remote location. This relay must be installed in a junction box.

Interconnects smoke alarms, carbon monoxide alarms and heat alarms with:

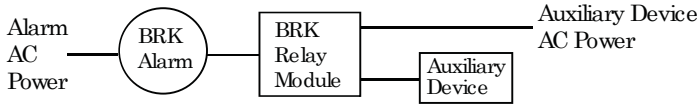
- Lights
- Bells
- Door Closers
- Sirens
- Exit Signals
- Escape Lights
- Exhaust Fans
- Other Auxiliary Devices

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This accessory relay is designed to activate auxiliary devices such as bells, lights and door closers. The RM4 Relay is intended for use with BRK and First Alert Smoke, Heat, and Carbon Monoxide Alarms.



**TECHNICAL SPECS**

Dimensions:	3.5 Lx 1.5 H
Weight:	2.2 oz
Operating Voltage:	120V AC 60Hz
Operating Current:	.02 amps (standby/alarm)
Temperature Range:	40° F(4° C) to 100° F(38° C)
Humidity Range:	10% to 90% relative humidity (RH)
<b>Interconnections:</b>	<b>Up to 18 units of First Alert or BRK Smoke, CO and Heat Alarms.</b> Maximum of 12 smoke alarms. See user's manual for details.
<b>Listing:</b>	Meets UL217, UL2034, UL539, ULCS-531, CSA6.19 and ULCS-530 for accessories.

**ARCHITECTURAL AND ENGINEERING SPEC**

To install this relay to an alarm, connect the power wires as listed below. See diagram for connections. Note: If wiring the relay remote from the alarm, use a maximum of 1000 feet [300 meters] of #18AWG or larger wire rated at least 300V.

ALARM	CONNECTION	RELAY
BLACK WIRE	(HOT)	BLACK WIRE
WHITE WIRE	(NEUTRAL)	WHITE WIRE
ORANGE WIRE	(INTERCONNECT)	ORANGE WIRE

Now connect the accessory to be activated by the relay to the relay's switch contact wires as listed below. (Use wiring appropriate to the auxiliary device being controlled.) **NOTE:** Since voltage is present on all relay contact wires at some time during operation, the installer must properly insulate any unused relay contact wire.

BROWN WIRE	HOT CONTACT TO AUXILIARY DEVICE
GRAY WIRE	NORMALLY CLOSED CONTACT
BLUE WIRE	NORMALLY OPEN CONTACT

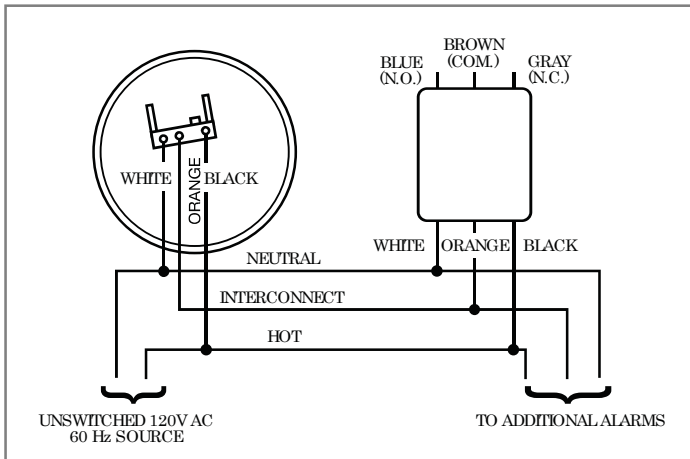
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**SHIPPING SPECS:**

Individual Bag Dim. (Approx.)	6.25" Lx 1.50" Wx 5.00" H
Weight	0.16 lbs.
Cube	0.03 ft <sup>3</sup>
UPC	0 29054 00057 6
Master Carton Dimensions	10.25" Lx 4.75" Wx 6.38" H
Master Pack	12
Weight	2.1 lbs.
Cube:	0.19 ft <sup>3</sup>
Eof5:	100 29054 00057 3
<b>Pallet Information</b>	
Cases per Layer	35
Number of Layers:	6
Cases per Pallet:	210
Units per Pallet:	2,520
Cube:	54.7 ft <sup>3</sup>
Weight:	695 lbs.



**CONTACT RATINGS (MAXIMUM):**

VOLTAGE	RESISTIVE	MOTOR
120V AC	15 AMP	1/3 HP.
30V	DC 15 AMP	

After installation, test the interaction of the auxiliary device with the alarm by pressing the alarm test button.



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## Description

The DH Series Electromagnetic Fire Door Holders are constructed of the finest materials and workmanship available. Each door holder is made of durable die-cast metal and offered in a powdercoated finish.

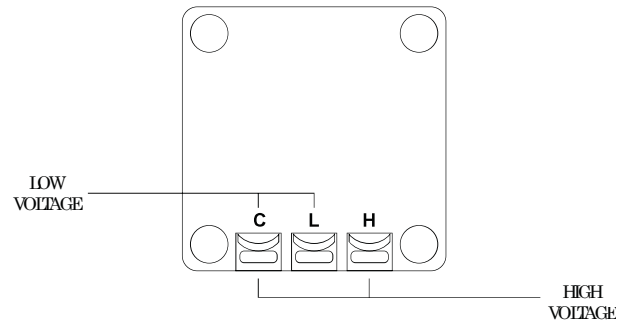
Installation is easy with DH Series installation technique - an adhesive template assures alignment without secondary adjustments. No brackets are required for recessed, flush or surface mounting (the surface mounting box has three conduit ready entries). Plus, the new catch plate features two pivot points and two way adjustability to further ensure perfect alignment. Optional extension rods are also available for providing the proper gap distance between the door and wall.

The basic units offer superior reliability with built-in transient protection and low residual magnetism so they release easily even on new ADA low pressure door closers.

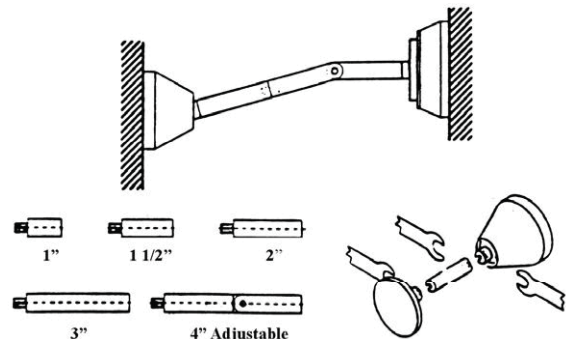
## Features

- Extremely low current draw. Only 20mA at 24V saves on power supplies and backup batteries
- New recessed mount for lowest profile look
- Dual voltage inputs in each units reduces stocking requirements
- Self-adjusting swivel catch-plate reduces installation time and adjusts to door alignment changes
- Optional extension rods make installation faster
- Low residual magnetism easily releases even on new ADA low pressure door closers
- Built-in transient protection
- Floor mount units available

## Dual Voltage Terminal Diagram



## Extension Rod Applications



**CATALOG NUMBER 7905**

NOT TO BE USED FOR INSTALLATION PURPOSES.

Mircom reserves the right to make changes at any time without notice in prices, colours, materials, components, equipment, specifications and models and also to discontinue models.

## Specifications

Model	Voltage	DC /mA	AC /mA	Terminals	Holding Force
24120	24V	20	19	C&L	40 lbs. (18.1 kg)
	120V	-	20	C&L	35 lbs. (15.8 kg)

**Note:** Holding forces listed in the above table correspond with shaded values. Non-shaded values are slightly less.

## Ordering Information

Model	Description
DH24120SPC	24V AC/DC, 120 VAC Surface Mount, Electromagnetic Door Holder
DH24120RPC	24V AC/DC, 120 VAC Recess Mount, Electromagnetic Door Holder
DH24120FPC	24V AC/DC, 120 VAC Semi-Flush Mount, Electromagnetic Door Holder
DH24120GPC1	24V AC/DC, 120 VAC Floor Mount Electromagnetic Door Holder, Single Coil
DH24120GPC2	24V AC/DC, 120 VAC Floor Mount Electromagnetic Door Holder, Double Coil
DHE1PC	1" Extension Rod
DHE2PC	2" Extension Rod
DHE3PC	3" Extension Rod
DHE4APC	4" Adjustable Extension Rod
DHSBPC	Swivel Base

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Distributed by:

Web page: <http://www.mircom.com> Email: [mail@mircom.com](mailto:mail@mircom.com)

ISO 9001:2000  
REGISTERED



CAT. 7905  
Rev. 5



**Features**

- Molded of thick, super-tough polycarbonate material
- Protection against physical damage, dust, grime, and severe environments inside and out
- Serves as an inexpensive weather cover as well as helps stop vandalism and accidental damage
- Fast, easy installation
- Widely used to extend the life of equipment in salt-water areas such as aboard ocean-going ships, on oil rigs or at beach-front condos
- UV stabilized against sun deterioration
- When used outdoors, can pay for itself many times over. (UL requires pull stations to be listed for outdoor use with cover.)
- Available in red, blue, green and yellow with custom labeling.
- UL tested to NEMA 3R requirements for weather rating for moisture resistance
- Lifetime guarantee against breakage and damage in normal usage
- Polycarbonate tested -40°F (-40°C) to 120°F (49°C)

**Description**

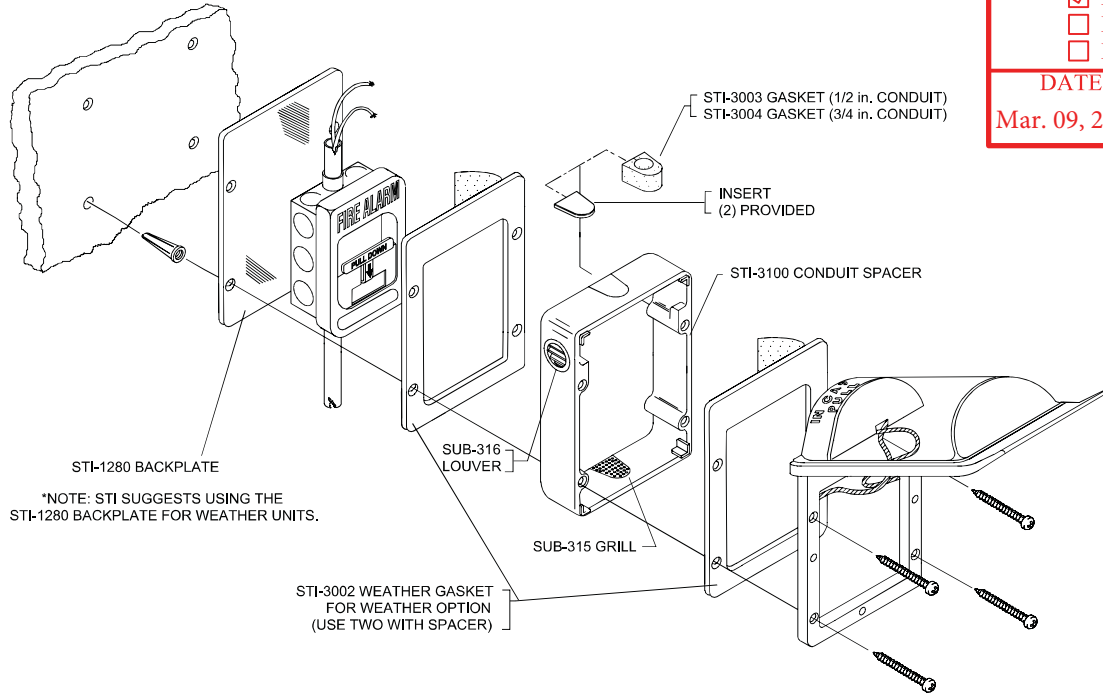
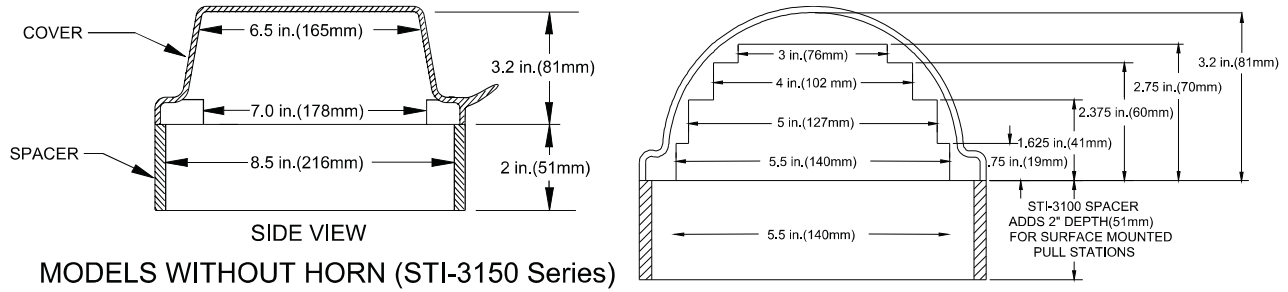
The Weather Stopper is a tough, clear polycarbonate cover that helps dramatically to extend the life and reliability of weather exposed manual pull stations, push buttons and similar devices as well as protect them in harsh indoor conditions. Using the same supertough cover as the Stopper® II device but without the warning horn, it is especially useful in increasing the lifespan of units in salt-water areas or other severe environments. Two versions are offered: STI-1250 for flush-mounted stations and STI-3150 for surface-mounted units.

Backed by a lifetime guarantee, this strong, durable cover can take the toughest knocks, it also guards against physical damage and thereby helps reduce false fire alarms. It is UV stabilized against discoloration and in addition protects against damage from dust and grime. Weather Stopper carries a lifetime guarantee against breakage in normal use.

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## Dimensions and Mounting Instructions



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### Ordering Information

Model	Description
STI-1250	Weather Stopper for flush mounting
STI-3150	Weather Stopper for surface mounting

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Web page: <http://www.mircom.com>

Email: [mail@mircom.com](mailto:mail@mircom.com)

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CAT. 5311  
 Rev. 2

## ***GEO-LIS-HD (Heavy Duty) Series LED Illuminated Sign:***

### ***PRODUCT DESCRIPTION:***

The GEO-LIS-HD Series of low voltage, low maintenance illuminated signs are designed for locations where a high level of abuse and vandalism is expected. An important feature is that the lettering within the sign is not visible unless the sign is illuminated. The frame is manufactured from an attractive and durable clear anodized aluminum. Optional anodized colours are available upon request. Wall mounting is suggested, but a ceiling mount bracket can be provided upon request.

Sign illumination is provided by a reliable bright red LED illuminated panel, an optional "Flasher" module is available for added visual effectiveness. The advantage of using LED's rather than lamps for illumination is their reliability and low operating cost. LED's use substantially less power, and are capable of lasting for years without any degradation in intensity. The sign itself is protected by 1/8" Lexan clear protective lens.

The standard sign reads, "FIRE DO NOT ENTER", but is also available in a English / French bilingual version. Other common displays include, "EXIT", "ON AIR", and "IN USE". Custom text in English or French is available upon request. The GEO-LIS-HD has been tested to ANSI and UL specifications, and is designed for 24VDC with a integrated supervisory feature.



The GEO-LIS-HD Series of LED illuminated signs will provide your customers with a reliable and extremely durable addition to any institutional fire alarm system or building.

### ***PRODUCT FEATURES:***

- Attractive anodized aluminum frame.
- Optional anodized frame colours available upon request.
- Available in either wall or ceiling mount.
- Sign illumination provided by a reliable and bright red LED illuminated panel.
- Optional "Flasher" module available.
- Long term cost effective operation.
- Standard sign text reads: "FIRE DO NOT ENTER".
- Custom text options available.
- Lettering not visible unless LED panel is illuminated.
- Protected by a clear Lexan protective lens.
- CSA tested to ANSI and UL specs.
- Designed for 24VDC or 24VAC operation.
- Integrated supervisory feature.
- Connects easily to fire alarm bell circuit.

### ***MODEL INFORMATION:***

#### ***Heavy Duty Frame:***

See Table 1.1

#### ***Overall Dimensions:***

Width: 14-3/8" (365mm)  
 Height: 10-11/16" (272mm)  
 Depth: 1-3/4" (45mm)

<b>JAY ELECTRIC LIMITED</b>	
<input checked="" type="checkbox"/> Reviewed <input type="checkbox"/> Reviewed as noted <input type="checkbox"/> Resubmit	
DATE	REVIEWED BY
Mar. 09, 2015	<i>Gary R Beer</i>

**GEO-LIS-HD (Heavy Duty) LED Illuminated Sign:**

**HEAVY DUTY FRAME MODEL INFORMATION:**

MODEL NUMBER:	MOUNTING TYPE	LED PANEL OPERATION	OPERATING VOLTAGE	SIGN TEXT	LANGUAGE
GEO-LIS-1000HD-X	CEILING / WALL	FLASHING	24VDC	FIRE DO NOT ENTER	ENGLISH
GEO-LIS-1001HD-X	CEILING / WALL	SOLID	24VDC	FIRE DO NOT ENTER	ENGLISH
GEO-LIS-1100HD-X	CEILING / WALL	FLASHING	24VAC	FIRE DO NOT ENTER	ENGLISH
GEO-LIS-1101HD-X	CEILING / WALL	SOLID	24VAC	FIRE DO NOT ENTER	ENGLISH
GEO-LIS-1200HD-X	CEILING / WALL	FLASHING	24VDC	FIRE DO NOT ENTER / FEU DEFENCE D'ENTRER	BILINGUAL
GEO-LIS-1201HD-X	CEILING / WALL	SOLID	24VDC	FIRE DO NOT ENTER / FEU DEFENCE D'ENTRER	BILINGUAL
GEO-LIS-1300HD-X	CEILING / WALL	FLASHING	24VAC	FIRE DO NOT ENTER / FEU DEFENCE D'ENTRER	BILINGUAL
GEO-LIS-1301HD-X	CEILING / WALL	SOLID	24VAC	FIRE DO NOT ENTER / FEU DEFENCE D'ENTRER	BILINGUAL
GEO-LIS-1400HD-X	CUSTOM	FLASHING	24VDC	CUSTOM	CUSTOM
GEO-LIS-1401HD-X	CUSTOM	SOLID	24VDC	CUSTOM	CUSTOM
GEO-LIS-1500HD-X	CUSTOM	FLASHING	24VAC	CUSTOM	CUSTOM
GEO-LIS-1501HD-X	CUSTOM	SOLID	24VAC	CUSTOM	CUSTOM

TABLE 1.1

NOTES: 1: X INDICATES THE FRAME COLOUR VARIABLE: A - CLEAR, B - BLACK, AND C - BRONZE.

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## FIRE ALARM ACCESSORIES



### WG-Series Wire Guards

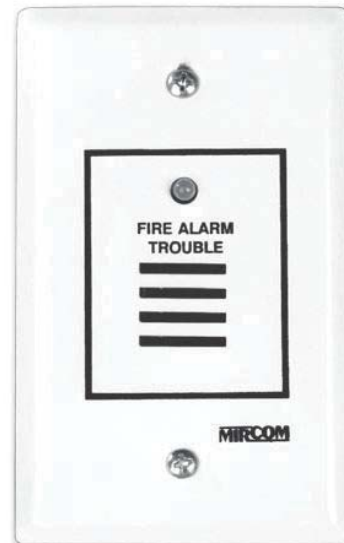
- Easy to install
- Chrome plated steel construction
- Fits directly over detector or bell

The WG-Series wire guards provide protection of bells and detectors from physical damage in manufacturing plants, gymnasiums, warehouses and related hazardous areas. The guards fit directly over most heat, smoke detectors or bells. They will not mount over detectors which are installed on to surface mounted electrical boxes.

### RTI-1 Remote Trouble Indicator

- Loud piercing sound
- Easy to install
- UL & ULC listed

Mircom's Remote Trouble Indicator provides remote annunciation of fire alarm troubles. The RTI-1 mounts onto a standard single gang electrical box. The RTI-1 can be used with any of Mircom's fire alarm control panels.



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### MP-300 End Of Line Plates

- UL and ULC listed
- Rated up to 47K @ 1W
- Complementary white exterior
- Fits over a standard single gang box

Mircom's MP-300 End of Line Resistor plate provides an attractive and accessible location for fire alarm circuit resistor mounting. The resistor mounted on the E.O.L. plate is of a value specified by the control panel manufacturer.



## Fire Alarm Batteries

- Long Life
- Completely Sealed
- Maintenance Free
- Wide range of amperage ratings

Mircom's sealed lead-acid batteries are completely maintenance-free. The sealed lead-acid batteries provide full rated power on demand. The 12V batteries have a wide range of amperage ratings from 4AH to 65AH.

### Ordering Information

Model	Description
-------	-------------

#### Wire Guards

WG-008	Chrome Plated Wire Guard, 8" Diameter
WG-010	Chrome Plated Wire Guard, 10" Diameter
WG-012	Chrome Plated Wire Guard, 12" Diameter
WG-150	Detector Guard for CR-135
WG-152	Detector Guard, built into standard snap-in detector cover plate

#### Remote Trouble Indicator

RTI-1	Remote Trouble Indicator
-------	--------------------------

#### End Of Line Plates

MP-300	EOL Resistor Plate - Beige
MP-300R	EOL Resistor Plate - Red
MP-300S	EOL Resistor Plate - Stainless Steel Finish

#### Batteries

BA-104	Gel-Cell 12V / 4 AH Battery
BA-1065	Gel-Cell 12V / 7.2 AH Battery
BA-110	Gel-Cell 12V / 12 AH Battery
BA-117	Gel-Cell 12V / 18 AH Battery
BA-124	Gel-Cell 12V / 26 AH Battery
BA-140	Gel-Cell 12V / 40 AH Battery
BA-165	Gel-Cell 12V / 65AH Battery

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#### Canada

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Web page: <http://www.mircom.com>

Email: [mail@mircom.com](mailto:mail@mircom.com)

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CAT. 5301  
Rev. 5



# BUILDING MONITORING PANEL



**EC-300**

## **FEATURES:**

### **MULTIPLE AUDIBLE/VISUAL ALARM STATES**

Three alarm conditions are available on the EC-300 system; fast, slow and steady. Each can be programmed for distinguishing calls for Emergency and Monitoring systems.

### **REMOTE DUTY STATIONS**

Remote duty stations may be added to the system to provide signal silence and remote alarm annunciation.

### **DRY ALARM CONTACTS**

Dry contacts are available for central peripheral devices.

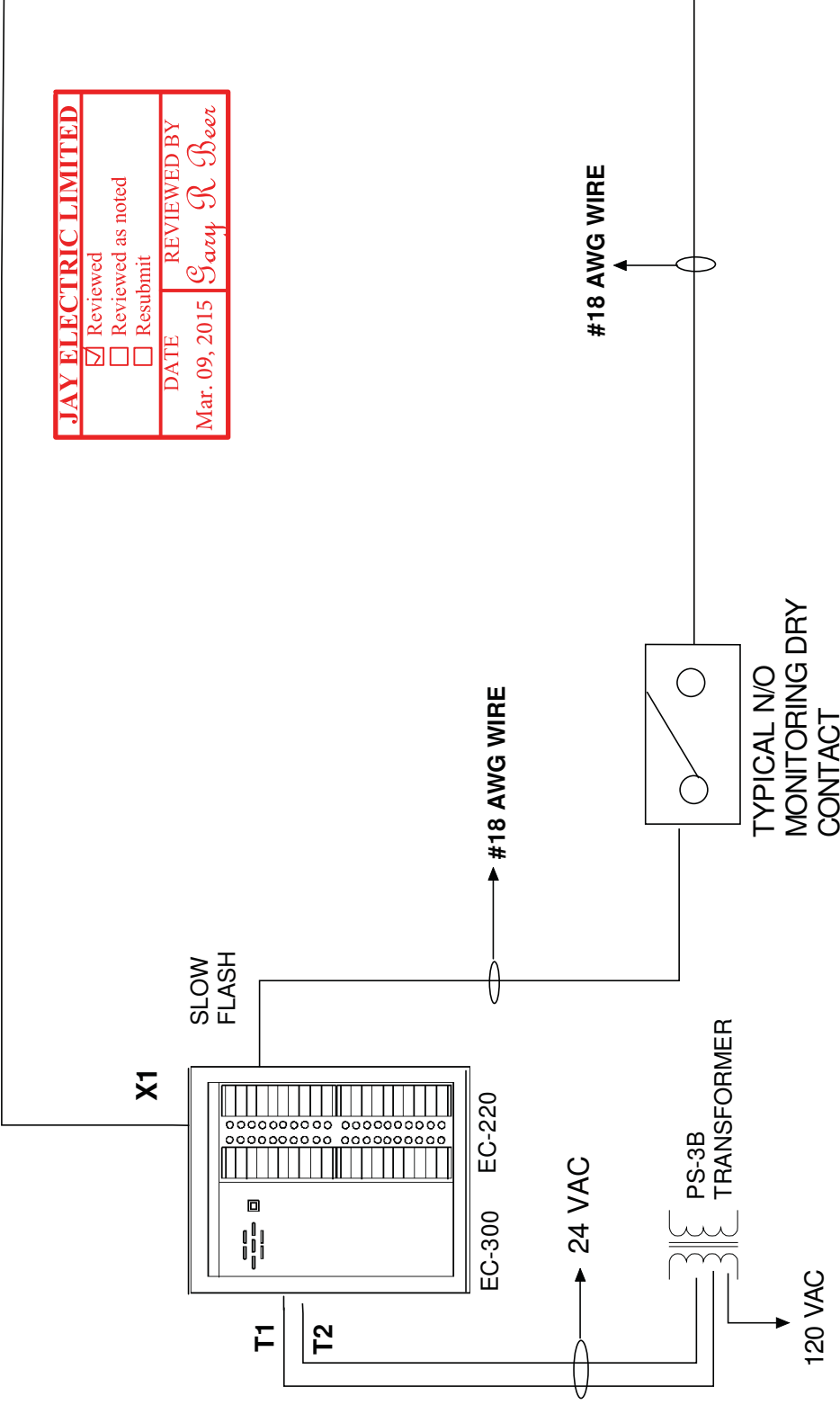
### **REMOTE SIGNALLING AND CONTROL OUTPUTS**

Connections can be made to the central control unit to remotely annunciate alarm calls and initiate signal silence.

### **MODULAR DESIGN**

Easily expandable, the EC-300 system uses add on annunciator panels. The modular construction easily facilitates custom applications.

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FRAME	DESCRIPTION	BACKBOX FLUSH	WALL OPENING DEMENSIONS
301-2F	Accommodates two modules	301-2B	335 mm (h) x 279 mm (w) x 108 mm (d) 13 3/16" (h) x 11" (w) x 4 1/4" (d)

EC-300 WIRING DIAGRAM

FOR BUILDING MONITORING SYSTEM



25 Interchange Way  
Vaughan, Ontario  
L4K 5W3

**DWG NO. :**  
EC-300