



# Fire Alarm Permit

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

Installation address: 1685 Congress St CBL: \_\_\_\_\_

Exact location: (within structure) in side of front doors on left

Type of occupancy(s) (NFPA & ICC): Business

Building owner: 1685 Congress LLC

System Designer (point of contact): Kevin Inman  
Must be

Designer phone: 207-332-1204 E-mail: kevininman@protection1.com

Installing contractor: Protection One Certificate of Fitness No: 1003

Contractor phone: 207-408-4849 E-mail: jasongervais@protection1.com

This is a new application: YES  NO  New AES Master Box: YES  NO   
(Include Master Box approval form)

Amendment to an existing permit: YES  NO  Permit no: \_\_\_\_\_

The following documents shall be provided with this application:

- Floor plans
- Scope of Work
- Wiring diagram
- 11 1/2 x 17s
- Annunciator details
- pdf copy (may be e-mailed)
- Input/ Output Matrix
- Designer qualifications
- Equipment data sheets
- Battery/ voltage drop calcs
- Electrical Permit Pulled (check alarm/com)

COST OF WORK: 5000-

PERMIT FEE: \_\_\_\_\_  
(\$10 PER \$1,000 + \$30 FOR THE FIRST \$1,000)

Master box approval only: YES  NO   
(If yes check *New AES Master Box* above)

The designer shall be the responsible party for this application. Download a new copy of this application at [www.portlandmaine.gov/fire](http://www.portlandmaine.gov/fire) for every submittal. Submit all plans in electronic PDF in addition to readable 11 1/2 x 17s to the Building Inspections Department, 389 Congress Street, Room 315, Portland, Maine 04101.

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

All installation(s) must comply with the *City of Portland Technical Standard for Signaling Systems for the Protection of Life and Property*, available at [www.portlandmaine.gov/fire](http://www.portlandmaine.gov/fire).

Applicant signature: [Signature] Date: 8-4-11

Scope of Work for Second Floor Fire Alarm installation

1685 Congress LLC  
1685 Congress St.  
Portland, Me

This is an addition to the system we brought up to code last year when the second floor was not occupied.

At that time you had said to do nothing on the second floor until a tenant moves in.

They now have a tenant.

Attached is the permit and the fire alarm system addition for the 2<sup>nd</sup> floor only.

We will be putting a NAC extender for these devices.

The SLC devices – Pull Stations-2, and Smoke Detector are already on the existing panel and fully addressable.

Kevin Inman  
Protection One  
10 Manuel Dr.  
Portland, Me  
207-332-1204

**Protection One**  
 10 Manuel Dr  
 Portland, me, 04103  
 2073321204 Phone  
 Fax

Project Name: 1685 Congress  
 Project Number:  
 Designer: Kevin Inman  
 Date: 8-4-11

**Circuit Summary**

Circuit Number	Circuit Name	Supply Voltage (VDC)	Alarm Current	Wire Type	Ohms / 1000 ft.	Length (Feet)	Total Resistance (Ohms)	Voltage Last Device
5	2nd floor north	20.4	1.365	#14AWG Solid	3.19	200	1.28	18.66
6	2nd floor south	20.4	0.939	#14AWG Solid	3.19	200	1.28	19.20
7	2nd floor east	20.4	1.290	#14AWG Solid	3.19	200	1.28	18.75
8	2nd floor west	20.4	0.990	#14AWG Solid	3.19	200	1.28	19.14

**Notes:**

- 1.) Wire resistance is taken from Chapter 9 Table 8 of the National Electric Code (NFPA70). Resistance shown is calculated at 75 degrees Centigrade (167 degrees Fahrenheit)
- 2.) Formula used for calculation:  
 Total Resistance = (Length x 2) / 1000 x Ohms Per 1000 Ft.  
 Voltage Last Device = Supply Voltage - (Alarm Current x Total Resistance)

3.) Calculations are based on average current draw of devices using a regulated power supply only.

**Lower  
Current  
Draw!!**

**GENTEX  
CORPORATION**

## Commander<sup>4</sup> Series Selectable Ceiling Mount Strobe and Horn Strobe

### Applications

The GCS/GCC Series is a ceiling mount strobe or horn/strobe combination that offers dependable audible and visual alarms and the lowest current available.

The GCS/GCC offers tamperproof field selectable candela options of 15, 30, 75, 95, 115 and 150 candela.

The GCC horn offers a continuous or synchable temporal three in 2400Hz or mechanical tone. These tones are easy for the professional to change in the field by using switches. The models are shipped from the factory in the temporal three alarm mode.

The GC Series has a very minimal operating current and has a minimum flash rate of 1Hz regardless of input voltage.

The Commander<sup>4</sup> Series comes standard with the 4" mounting plate which incorporates the popular Super-Slide<sup>®</sup> feature that allows the installer to easily test for supervision.

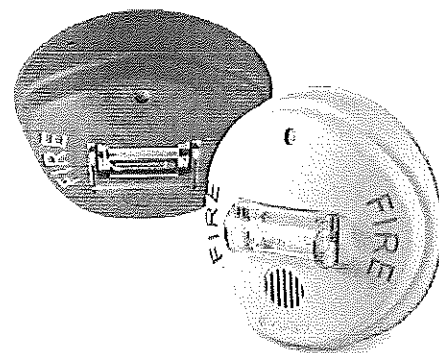
The Commander<sup>4</sup> also features the patented Checkmate<sup>®</sup> - Instant Voltage Verification feature which allows the installer to check the voltage without removing the signal.

The GC Series appliances are UL 464 and UL 1971 listed for use with fire protective systems and are warranted for three years from the date of purchase.

### Standard Features

- Nominal Voltage 24VDC
- Tamperproof Field Selectable Candela options of 15, 30, 75, 95, 115 & 150
- Super-Slide<sup>®</sup> Bracket - Ease of Supervision Testing
- Checkmate<sup>®</sup> - Instant Voltage Verification (Patented)
- **Unit Dimensions:** 6" x 2.6"
- Synchronize GC Series by using Gentex Series Control Module
- Prewire Entire System, then Install Your Signals
- Input Terminals 12 to 18 AWG
- Switch Selection for High or Low dBA
- Switch Selection for 2400Hz or Mechanical Tone
- Switch Selection for Continuous or Temporal 3
- Tamperproof Re-entrant Grill
- Surface Mount with the GCSB (Gentex Ceiling Surface Mount Box).
- Silence Horn While Strobes Remain Flashing
- Wide Voltage Range 16-33 VDC or FWR
- Faceplate Available in Red or Off-White

## GCS/GCC 24VDC S E R I E S



### Product Listings

SIGNALING



LISTED



- UL 464 and UL 1971 Listed
- FM Approved
- CSFM: 7135-0569:122 (GCC)  
7125-0569:123 (GCS)
- BS+A/MEA #285-91-E
- BFP (City of Chicago)

### Patents

- 7,375,617 May 20, 2008

### Product Compliance

- NFPA 72
- Americans with Disabilities Act (ADA)
- Quality Management System is certified to:  
ISO 9001:2008



### GCS Series 24 Volt Ceiling Mount Selectable Strobe

Model Number	Part Number	Nominal Voltage	Candela
GCS24CR	904-1213-002	24VDC	15, 30, 75, 95, 115, 150
GCS24CW	904-1215-002	24VDC	15, 30, 75, 95, 115, 150
GCS24PCR	904-1214-002	24VDC	15, 30, 75, 95, 115, 150
GCS24PCW	904-1216-002	24VDC	15, 30, 75, 95, 115, 150

### GCC Series 24 Volt Ceiling Mount Selectable Horn/Strobe

Model Number	Part Number	Nominal Voltage	Candela	Reverberant dBA @ 10ft. Per UL 464	In Anechoic Room dBA @10ft.
GCC24CR	904-1209-002	24VDC	15, 30, 75, 95, 115, 150	81-86	90
GCC24PCR	904-1210-002	24VDC	15, 30, 75, 95, 115, 150	81-86	90
GCC24CW	904-1211-002	24VDC	15, 30, 75, 95, 115, 150	81-86	90
GCC24PCW	904-1212-002	24VDC	15, 30, 75, 95, 115, 150	81-86	90

**Notes:**

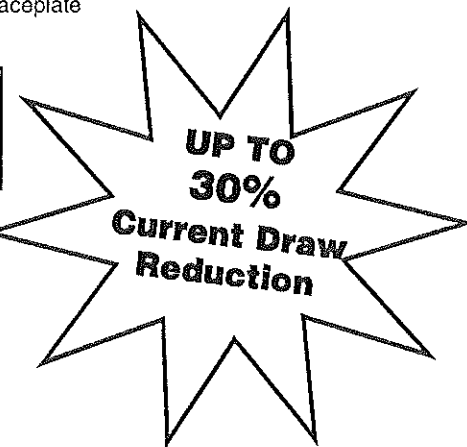
- The GC Series is not listed for outdoor use.
- Operating temperature: 32°to 120°F (0° to 49° C)
- For nominal and peak current across UL regulated voltage range for filtered DC power and unfiltered (FWR [Full Wave Rectified]) power, see installation manual.
- Gentex does not recommend using a coded or pulsing signaling circuit with any of our strobe products (see technical bulletin number 014 for more information).

**Model designations:**

"P" = Plain (no lettering) "C" = Ceiling Mount, "R" = Red Faceplate "W" = Off-White Faceplate

GC Series Product Strobe Current Ratings						
Candela	15cd	30cd	75cd	95cd	115cd	150cd
24VDC	72mA	101mA	167mA	200mA	214mA	286mA
UL Max <sup>1</sup>	120mA	120mA	200mA	220mA	290mA	321mA

GC Series Product Horn Current Ratings			
Horn Mode	Minimum dBA @ 10ft. per UL 464 (HIGH)	Minimum dBA @ 10ft. per UL 464 (LOW)	Regulated 24VDC Max. Operating @ High Setting (mA)
Temp 3 2400Hz	83	75	23
Temp 3 Mechanical	81	73*	22
Continuous 2400Hz	86	78	23
Continuous Mechanical	84	76	22



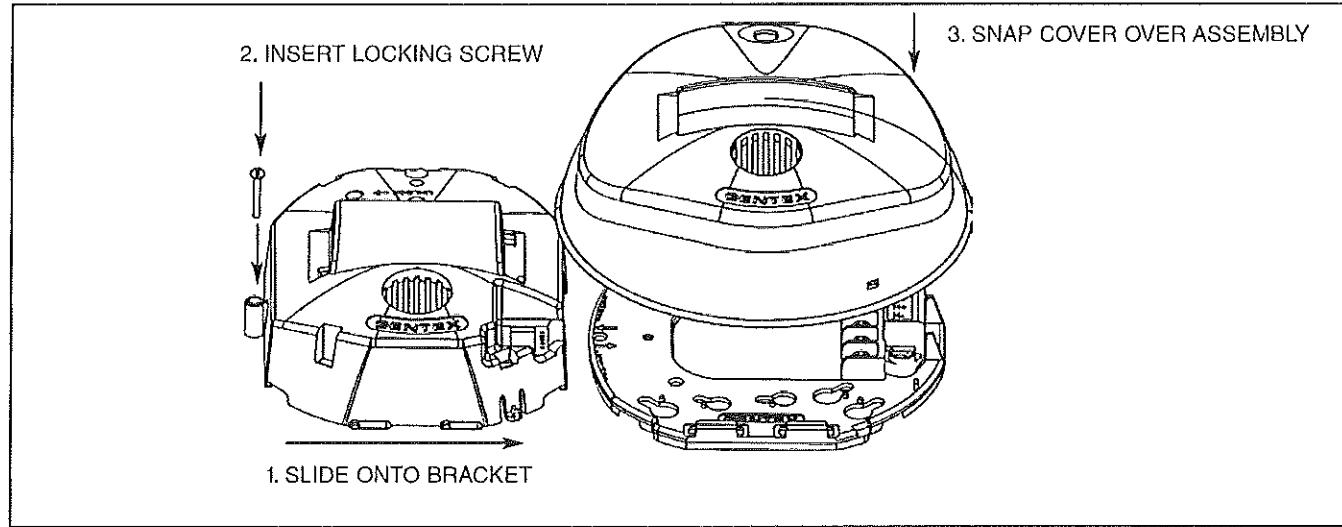
\*Operating the horn in this mode at this voltage will result in not meeting the minimum UL reverberant sound level required for public mode fire protection service. These settings are acceptable only for private mode fire alarm use. Use the high dBA setting for public mode application.

**Notes:** The sound output for the temporal 3 tone is rated lower since the time the horn is off is averaged into the sound output rating. While the horn is producing a tone in the temporal 3 mode its sound pressure is the same as the continuous mode.

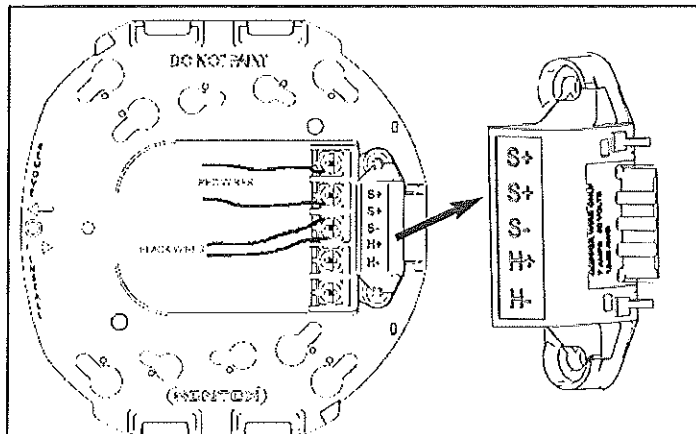
To obtain the horn/strobe current draw, add the strobe current draw and the horn current draw.

<sup>1</sup> RMS current ratings are per UL average RMS method. UL max current rating is the maximum RMS current within the listed voltage range (16-33VDC for 24VDC units). For strobes the UL max current is usually at the minimum listed voltage (16VDC for 24VDC units). For audibles the max current is usually at the maximum listed voltage. For unfiltered FWR ratings, see installation manual.

### Mounting Super-Slide®

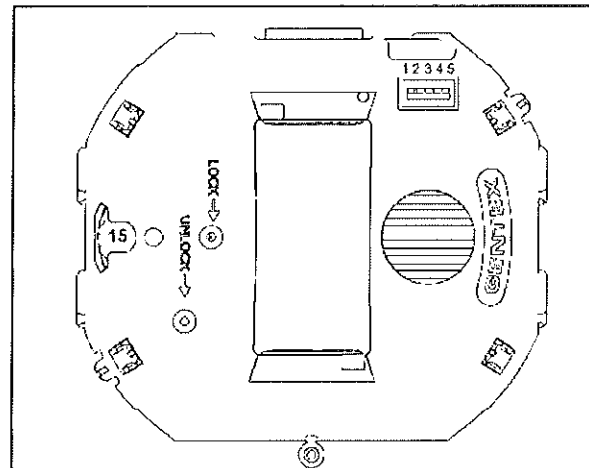


### Checkmate® Instant Voltage Verification (Patented)



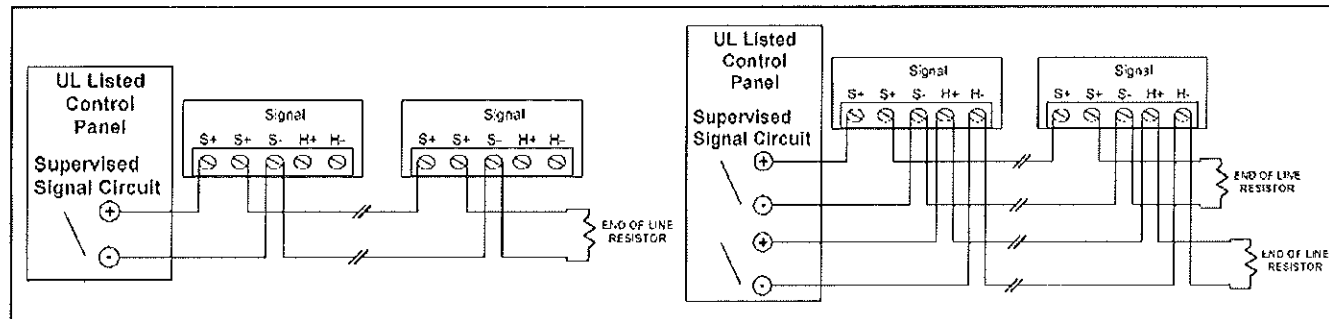
The access holes are provided in the back of the terminal block to allow the voltage to be measured directly without removing the device. Typically this would be done at the end of the line to confirm design criteria. Most measurements will be taken using the S+ and S- locations although access is provided to other locations. **NOTE:** Care should be taken to not short the test probes.

### Switch Locations



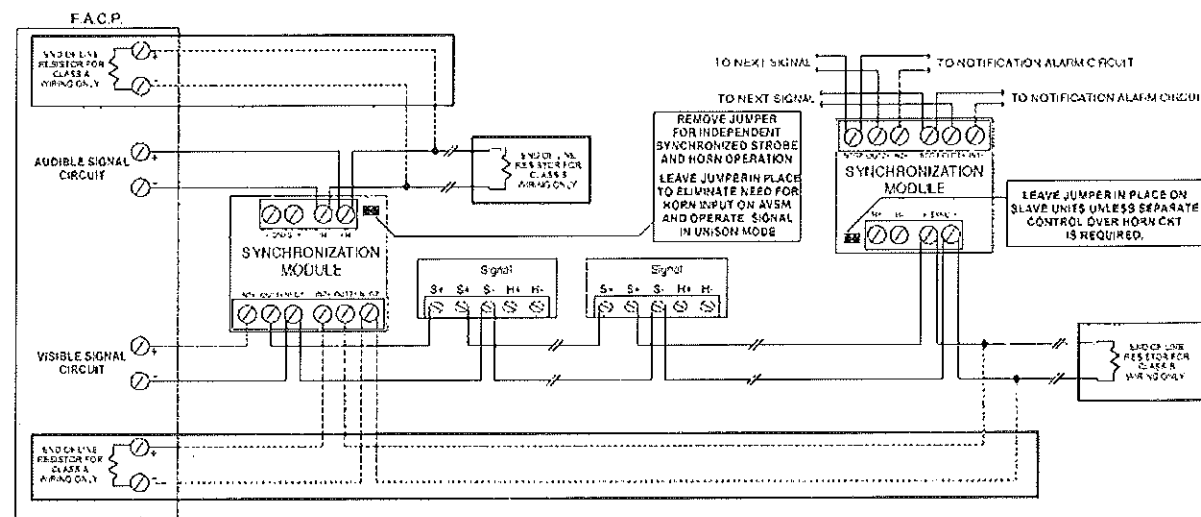
Switch positions 1 and 2 in the down position to select isolated horn and strobe power inputs. Switch 3 selects between temporal or non-temporal tone. Up is temporal. Switch 4 selects between mechanical or high frequency tone. Up is mechanical. Switch 5 selects between high or low dBA. Up is high dBA.

### Conventional GC Series Wiring Diagrams



# GCS/GCC 24VDC SERIES

Wiring Diagram GCS/GCC Series with Gentex Synchronization Module



Note: See Technical Bulletin 015 for proper synchronization module for application.

## Architect & Engineering Specifications

The visible and audible/visible signal shall be Gentex model GCS or GCC or approved equal and shall be listed by Underwriters Laboratories Inc. per UL 1971 for the GCS and also UL 464 for the GCC. The notification appliance shall also be listed with the California State Fire Marshal (CSFM) and the Bureau of Standards and Appeals (NYC).

The notification appliance (combination audible/visible units only) shall produce a peak sound output of 90dBA or greater as measured in an anechoic chamber. The signaling appliance shall also have the capability to silence the audible signal while leaving the visible signal energized with the use of a single pair of power wires. Additionally, the user shall be able to select either continuous or temporal tone output with the temporal signal having the ability to be synchronized.

The audible/visible and visible signaling appliance shall also maintain a minimum flash rate of 1Hz or up to 2Hz regardless of power input voltage. The appliance shall have an operating current of 72mA or less at 24VDC for the 15 candela strobe circuit.

The appliance shall be polarized to allow for electrical supervision of the system wiring. The unit shall be provided with a mounting bracket with terminals with barriers for input/output wiring and be able to mount to a single gang or double gang box or double workbox with the use of an adapter plate. The unit shall have an input voltage range of 16-33 volts with either direct current or full wave rectified power.

The appliance shall be capable of test supervision without disconnecting wires. Also the appliance shall be capable of mounting to a surface box. The unit shall also be able to verify voltage at the unit without removing unit.

24 units per carton  
29 pounds per carton

**GENTEX**  
CORPORATION

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10985 Chicago Drive • Zeeland, Michigan 49464  
616.392.7195 • 1.800.436.8391 • 616.392.4219 Fax

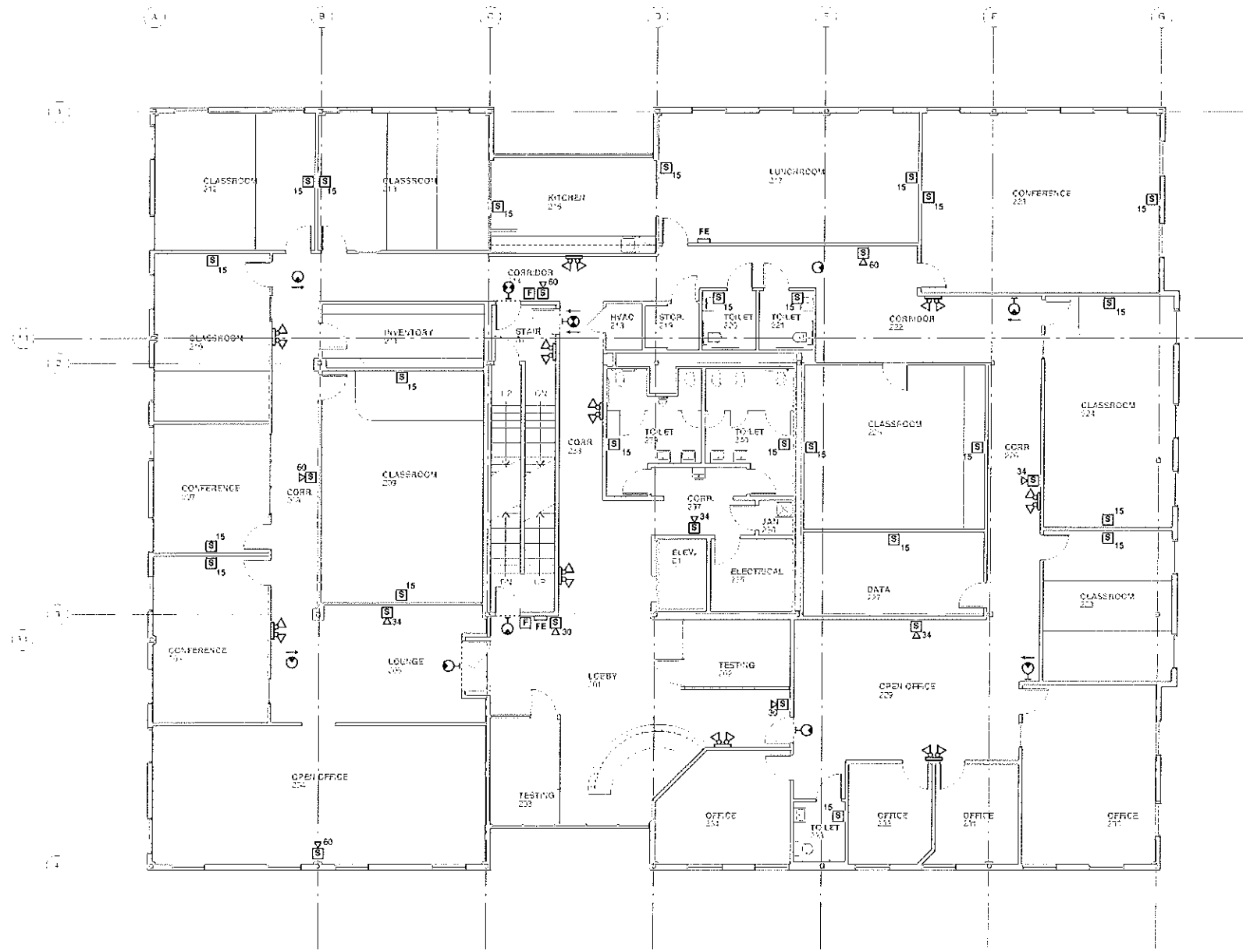
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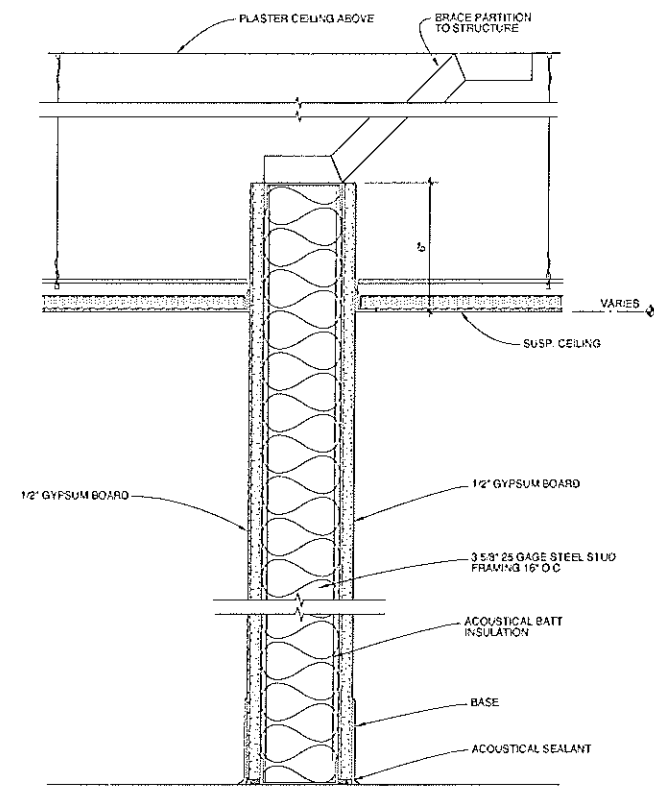
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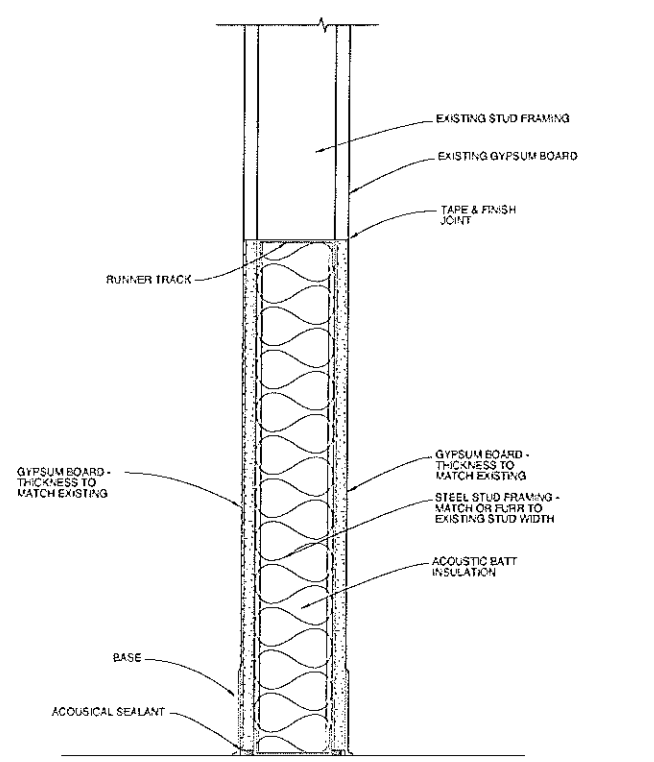


**1 SECOND FLOOR LIFE SAFETY PLAN**  
 SCALE: 1/8" = 1'-0"  
 2' 4' 8' 16'

- LIFE SAFETY LEGEND**
- EMERGENCY LIGHT
  - EXIT SIGN
  - HORN STROBE - NUMBER INDICATES CANDELA RATING
  - STROBE - NUMBER INDICATES CANDELA RATING
  - FIRE ALARM PULL STATION
  - FIRE EXTINGUISHER 10# DRY CHEMICAL TYPE



**3 PARTITION TYPE P2**  
 SCALE: 3" = 1'-0"  
 1' 2' 4' 8'



**2 PARTITION TYPE P1**  
 SCALE: 3" = 1'-0"  
 1' 2' 4' 8'



**Michael Charek Architects**

25 Hartley Street  
 Portland, Maine 04103  
 (207) 761-0556



**VTEC TRAINING CENTER**

1685 Congress Street  
 Portland, ME 04102

Title  
 SECOND FLOOR LIFE SAFETY PLAN, PARTITION TYPES

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

Date: 8/8/11

Revisions  
**ISSUED FOR PERMIT**

Sheet  
**A2**