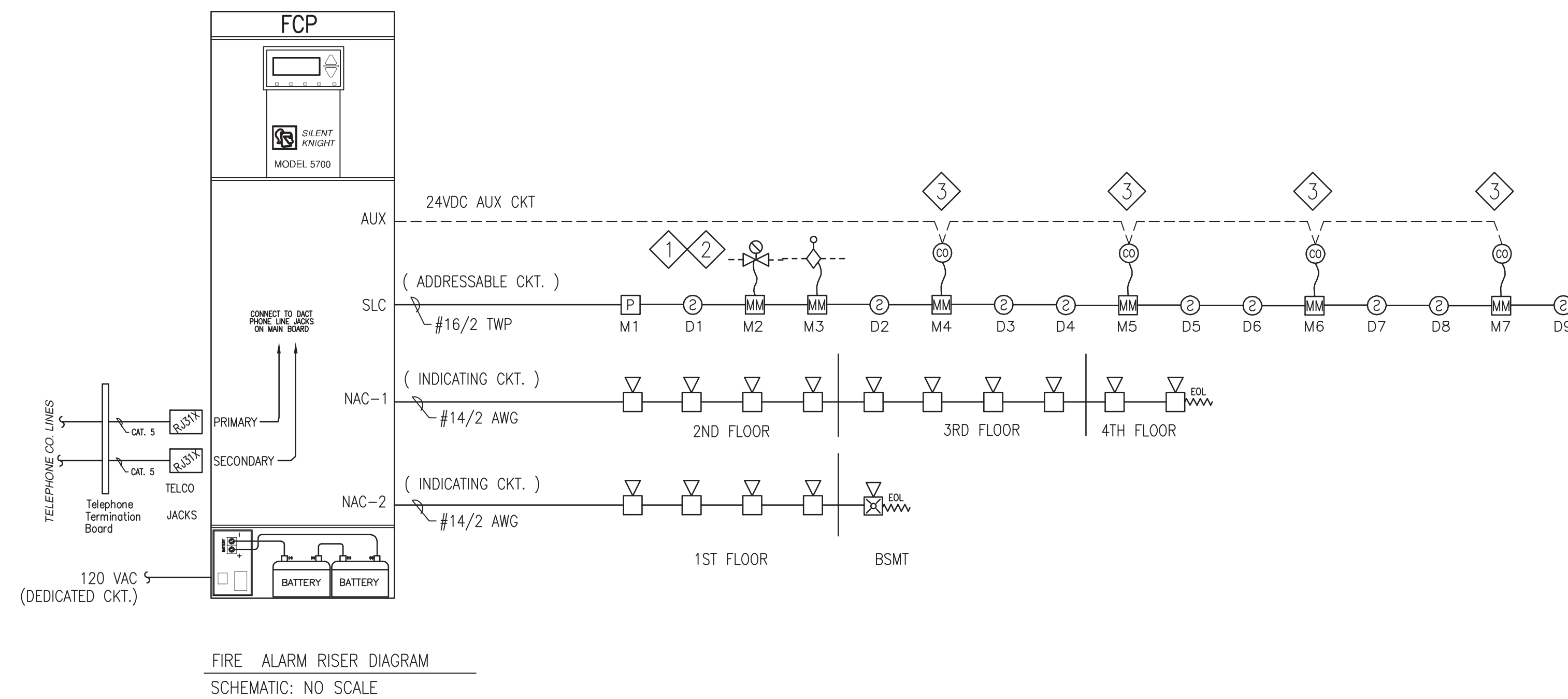


CYBERCAT 50 Battery Calculation				
PROJECT NAME: 43 CUMBERLAND APARTMENTS				
Required Standby Time: 24 Hours				
Required Alarm Time: 5 Minutes				
Regulated Load in Standby				
Device Type	Number of Devices		Current (Amps)	Total Current (Amps)
CONTROL PANEL CONTROLLER	1	X	0.20000	= 0.20000
SK - PHOTO SMOKE	9	X	0.00048	= 0.00433
SK - PULL STATION	1	X	0.00030	= 0.00030
SK - MONITOR MDL	6	X	0.00055	= 0.00330
TOTAL STANDBY LOAD				0.20789
Regulated Load in ALARM				
Device Type	Number of Devices		Current (Amps)	Total Current (Amps)
CONTROL PANEL CONTROLLER	1	X	0.32500	= 0.32500
SK - PHOTO SMOKE	9	X	0.00048	= 0.00433
SK - PULL STATION	1	X	0.00030	= 0.00030
SK - MONITOR MDL	6	X	0.00050	= 0.00300
NAC-1	1	X	0.29200	= 0.29200
NAC-2	1	X	0.29000	= 0.29000
TOTAL ALARM LOAD				0.94463
Battery Requirements				
Standby Load			Required Standby Time in Hours	
Current (Amps)	0.20789	X	24.00000	= 4.99030
Alarm Load			Required Alarm Time in Hours	
Current (Amps)	0.94463	X	0.06333	= 0.07872
Total Ampere Hours (before derating factor)				5.06802
Derating Factor			X	1.2
BATTERIES TO BE PROVIDED (2 - 12v)				7 AH

NAC Circuit Voltage Drop Calculation				
Project Name: 43 CUMBERLAND APARTMENTS				
Circuit Number: FCP-NAC1				
Nominal System Voltage	24 volts	Wire Gauge	14	Resistance Per 1000
Minimum Device Voltage	16 volts		14	6.14
Distance from source to 1st device	50			
Wire Gauge for balance of circuit: 14				
Max Output Current	1.5 amps			
Total Circuit Current	0.292 amps			
Circuit is within limits				
Device	Distance	Device	Voltage at Drop from	Percent
Current	previous device	Device	source	Drop
Device 1	0.029		23.91	0.09 0%
Device 2	0.029	30	23.86	0.14 1%
Device 3	0.029	30	23.82	0.18 1%
Device 4	0.029	30	23.78	0.22 1%
Device 5	0.176	50	23.73	0.27 1%
END			23.73	0.27 1%
END			23.73	0.27 1%
END			23.73	0.27 1%
END			23.73	0.27 1%
END			23.73	0.27 1%
Totals	0.292	190		

NAC Circuit Voltage Drop Calculation				
Project Name: 43 CUMBERLAND APARTMENTS				
Circuit Number: FCP-NAC2				
Nominal System Voltage	24 volts	Wire Gauge	14	Resistance Per 1000
Minimum Device Voltage	16 volts		14	6.14
Distance from source to 1st device	50			
Wire Gauge for balance of circuit: 14				
Max Output Current	1.5 amps			
Total Circuit Current	0.290 amps			
Circuit is within limits				
Device	Distance	Device	Voltage at Drop from	Percent
Current	previous device	Device	source	Drop
Device 1	0.029		23.91	0.09 0%
Device 2	0.029	30	23.86	0.14 1%
Device 3	0.029	30	23.82	0.18 1%
Device 4	0.029	30	23.78	0.22 1%
Device 5	0.029	30	23.75	0.25 1%
Device 6	0.029	50	23.71	0.29 1%
Device 7	0.029	30	23.68	0.32 1%
Device 8	0.029	30	23.67	0.33 1%
Device 9	0.029	30	23.66	0.34 1%
Device 10	0.029	30	23.65	0.35 1%
Totals	0.290	340		



MAINE STATE SECURITY ALARMS

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43 CUMBERLAND AVE APARTMENTS
41 CUMBERLAND AVE
PORTLAND, MAINE
FIRE ALARM SYSTEM RISER

DRAWN	JS UNICAD #13091
CHECKED	WAYNE HAWS NICET N 90496
DATE	2/29/2013
REVISION	0
SCALE	1/8"=1FT

Shop drawings created by:
5794 W. 4600 St.
Hallowell, ME 04843
Office: 801.985.0410

UNICAD Inc.
Fire Alarm Design & Drafting Services

FA-2

REVISION	DESCRIPTION	DATE
0	ISSUED FOR REVIEW & APPROVAL	3/11/2013
1	ADD SMOKE & CO DETECTORS	3/27/2013
2	REMOVE SMOKE DET D10	3/29/2013