

ELM TERRACE # 1ST FL 4009 NAC						
Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment						
4009-9201	1	4009 IDNET NAC EXTENDER, 120 VAC	0.0850	0.0850	0.1850	0.1850
Panel Totals			0.0850	0.0850	0.1850	0.1850
Notification Appliances						
4906-9101	2	V/O MC NON-ADDRESS, RED, WALL	15	0.0000	0.0000	0.0600
4906-9103	8	V/O MC NON-ADDRESS, WHI, WALL	15	0.0000	0.0000	0.0600
4906-9127	7	A/V MC NON-ADDRESS, RED, WALL	15	0.0000	0.0000	0.0750
4906-9129	17	A/V MC NON-ADDRESS, WHI, WALL	15	0.0000	0.0000	0.0750
4906-9129	2	A/V MC NON-ADDRESS, WHI, WALL	75	0.0000	0.0000	0.2210
Peripheral Totals			0.0000	0.0000	0.0000	2.8420
RUL Totals			0	0.0000	0.0000	0.0000
RUL Totals			0	0.0000	0.0000	0.0000
Total Standby			0.0850	0.0850	0.1850	0.1850
Total Alarm					0.3700	0.3700

** Current draw included under "Device Addresses Used" (See "Additional Current Draws")
 1. 2-wire detector alarm current is included in the alarm current of the Initiating Device Circuit.
 2. Backup Amplifier assumes Main Amplifier alarm current on failure.

Battery Set #1 (Cabinet/Charger #1)	Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:				
4009	0.0850	0.0850	0.1850	0.1850
Total				
	0.0850	0.0850	0.1850	0.1850
Standby Time = 24 Hrs + 0.0850 = 2.0400 Standby Ah				
Alarm Time = 5 Min 0.08333 x 3.027 = 0.2523 Alarm Ah				
Additional Spare Capacity = 0% + 0.0000				
Battery Discharge Factor = 20% + 0.4585				
Minimum Battery Required 2081-9272 6.2AH (2x) 2.7507				
Battery Supplied 2081-9272 6.2AH (2x)				

ELM TERRACE # 2ND FL 4009 NAC						
Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment						
4009-9201	1	4009 IDNET NAC EXTENDER, 120 VAC	0.0850	0.0850	0.1850	0.1850
Panel Totals			0.0850	0.0850	0.1850	0.1850
Notification Appliances						
4906-9103	12	V/O MC NON-ADDRESS, WHI, WALL	15	0.0000	0.0000	0.0600
4906-9127	9	A/V MC NON-ADDRESS, RED, WALL	15	0.0000	0.0000	0.0750
4906-9129	1	A/V MC NON-ADDRESS, WHI, WALL	110	0.0000	0.0000	0.2850
4906-9129	29	A/V MC NON-ADDRESS, WHI, WALL	15	0.0000	0.0000	0.0750
Peripheral Totals			0.0000	0.0000	0.0000	3.8550
RUL Totals			0	0.0000	0.0000	0.0000
Total Standby			0.0850	0.0850	0.1850	0.1850
Total Alarm					4.0400	4.0400

** Current draw included under "Device Addresses Used" (See "Additional Current Draws")
 1. 2-wire detector alarm current is included in the alarm current of the Initiating Device Circuit.
 2. Backup Amplifier assumes Main Amplifier alarm current on failure.

Battery Set #1 (Cabinet/Charger #1)	Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:				
4009	0.0850	0.0850	0.1850	0.1850
Total				
	0.0850	0.0850	0.1850	0.1850
Standby Time = 24 Hrs + 0.0850 = 2.0400 Standby Ah				
Alarm Time = 5 Min 0.08333 x 4.04 = 0.3367 Alarm Ah				
Additional Spare Capacity = 0% + 0.0000				
Battery Discharge Factor = 20% + 0.4753				
Minimum Battery Required 2081-9272 6.2AH (2x) 2.8520				
Battery Supplied 2081-9272 6.2AH (2x)				

ELM TERRACE # 3RD FL 4009 NAC						
Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment						
4009-9201	1	4009 IDNET NAC EXTENDER, 120 VAC	0.0850	0.0850	0.1850	0.1850
4009-9807	1	NAC CARD, 4PT, IDNET	0.0400	0.0400	0.0400	0.0400
Panel Totals			0.1250	0.1250	0.2250	0.2250
Notification Appliances						
4906-9103	12	V/O MC NON-ADDRESS, WHI, WALL	15	0.0000	0.0000	0.0600
4906-9127	8	A/V MC NON-ADDRESS, RED, WALL	15	0.0000	0.0000	0.0750
4906-9129	30	A/V MC NON-ADDRESS, WHI, WALL	15	0.0000	0.0000	0.0750
Peripheral Totals			0.0000	0.0000	0.0000	3.5700
RUL Totals			0	0.0000	0.0000	0.0000
Total Standby			0.1250	0.1250	0.2250	0.2250
Total Alarm					3.7950	3.7950

** Current draw included under "Device Addresses Used" (See "Additional Current Draws")
 1. 2-wire detector alarm current is included in the alarm current of the Initiating Device Circuit.
 2. Backup Amplifier assumes Main Amplifier alarm current on failure.

Battery Set #1 (Cabinet/Charger #1)	Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:				
4009	0.1250	0.1250	0.2250	0.2250
Total				
	0.1250	0.1250	0.2250	0.2250
Standby Time = 24 Hrs + 0.1250 = 3.0000 Standby Ah				
Alarm Time = 5 Min 0.08333 x 3.795 = 0.3163 Alarm Ah				
Additional Spare Capacity = 0% + 0.0000				
Battery Discharge Factor = 20% + 0.6633				
Minimum Battery Required 2081-9272 6.2AH (2x) 3.9795				
Battery Supplied 2081-9272 6.2AH (2x)				

ELM TERRACE # 1ST FL 4009 NAC VOLTAGE DROPS																
WIRE RESISTANCE BASED ON TABLE 8 FROM NATIONAL ELECTRICAL CODE (UNCOATED SOLID COPPER WIRE) @ 60 Celsius																
Notification Circuit Description	Power Supply	Panel Ckt	Plan Ckt	Dist. (Ft)	Wire Gauge	Wire Res. Ft. x 1000	Total Alarm (A)	V. Drop	V. Drop @ End	% Volt Drop	Min Device Voltage	Max Distance				
												15c	15c	15c	15c	15c
1ST FL CENTER	4009	V1	346	1499	0.0029	1.057	2.137	16.863	11.205	16vdc	496 Ft	2	2	3	2	2
1ST FL SOUTH CENTER	4009	V2	354	1499	0.0029	0.725	1.498	17.311	7.845	16vdc	713 Ft		2	3	5	
1ST FL NORTH EAST	4009	V3	278	1499	0.0029	0.630	1.023	17.977	5.305	16vdc	815 Ft		3		6	
1ST FL SOUTH EAST	4009	V4	240	1499	0.0029	0.435	0.810	18.390	3.215	16vdc	1180 Ft		1	1	4	

NOTE:
 LUMP SUM METHOD WAS USED TO CALCULATE ALLOWABLE VOLTAGE DROP. THIS METHOD ALLOWS FOR A SMALL MARGIN OF SAFETY, TAKING INTO CONSIDERATION THAT THE ACTUAL INSTALLED CIRCUIT ROUTING MAY DIFFER FROM WHAT IS SHOWN ON THE SHOP DRAWINGS. IF THE ACTUAL CIRCUIT LENGTH IS GOING TO EXCEED THE MAXIMUM ALLOWABLE CIRCUIT LENGTH, CONTACT YOUR LOCAL SIMPLEXGRINNELL DISTRICT OFFICE.

ELM TERRACE # 2ND FL 4009 NAC VOLTAGE DROPS																
WIRE RESISTANCE BASED ON TABLE 8 FROM NATIONAL ELECTRICAL CODE (UNCOATED SOLID COPPER WIRE) @ 60 Celsius																
Notification Circuit Description	Power Supply	Panel Ckt	Plan Ckt	Dist. (Ft)	Wire Gauge	Wire Res. Ft. x 1000	Total Alarm (A)	V. Drop	V. Drop @ End	% Volt Drop	Min Device Voltage	Max Distance				
												15c	15c	15c	15c	15c
2ND FLOOR WEST	4009	S01	V1	384	1499	0.0029	1.028	2.255	16.745	11.205	16vdc	511 Ft	3	4	7	
2ND FLOOR WEST	4009	S02	V2	257	1499	0.0029	0.780	1.171	17.829	6.108	16vdc	658 Ft	3	5	8	
2ND FLOOR SOUTH CENTER	4009	S03	V3	343	1499	0.0029	1.005	2.014	16.886	10.608	16vdc	511 Ft	2	5	3	1
2ND FLOOR EAST	4009	S04	V4	464	1499	0.0029	1.065	2.900	16.100	15.205	16vdc	482 Ft	4		11	

NOTE:
 LUMP SUM METHOD WAS USED TO CALCULATE ALLOWABLE VOLTAGE DROP. THIS METHOD ALLOWS FOR A SMALL MARGIN OF SAFETY, TAKING INTO CONSIDERATION THAT THE ACTUAL INSTALLED CIRCUIT ROUTING MAY DIFFER FROM WHAT IS SHOWN ON THE SHOP DRAWINGS. IF THE ACTUAL CIRCUIT LENGTH IS GOING TO EXCEED THE MAXIMUM ALLOWABLE CIRCUIT LENGTH, CONTACT YOUR LOCAL SIMPLEXGRINNELL DISTRICT OFFICE.

ELM TERRACE # 3RD FL 4009 NAC VOLTAGE DROPS																
WIRE RESISTANCE BASED ON TABLE 8 FROM NATIONAL ELECTRICAL CODE (UNCOATED SOLID COPPER WIRE) @ 60 Celsius																
Notification Circuit Description	Power Supply	Panel Ckt	Plan Ckt	Dist. (Ft)	Wire Gauge	Wire Res. Ft. x 1000	Total Alarm (A)	V. Drop	V. Drop @ End	% Volt Drop	Min Device Voltage	Max Distance				
												15c	15c	15c	15c	15c
3RD FLOOR WEST	4009	S01	V1	364	1499	0.0029	0.855	1.818	17.182	9.578	16vdc	601 Ft	3	4	5	
3RD FLOOR WEST	4009	S02	V2	247	1499	0.0029	0.705	1.077	17.983	5.358	16vdc	728 Ft	3		7	
3RD FLOOR SOUTH CENTER	4009	S03	V3	363	1499	0.0029	1.005	2.143	16.866	11.228	16vdc	511 Ft	3	2	9	
3RD FLOOR EAST	4009	S04	V4	456	1499	0.0029	0.990	2.638	16.362	13.885	16vdc	519 Ft	4		10	
ROOF STAIR	4009	S05	V5	40	1499	0.0029	0.150	0.030	18.965	0.188	16vdc	3423 Ft		2		
SPARE	4009	S06	V6	1	1499	0.0029	0.003	0.003	19.000	0.003	16vdc	0 Ft				
SPARE	4009	S07	V7	1	1499	0.0029	0.000	0.000	19.000	0.000	16vdc	0 Ft				
SPARE	4009	S08	V8	1	1499	0.0029	0.000	0.000	19.000	0.000	16vdc	0 Ft				

NOTE:
 LUMP SUM METHOD WAS USED TO CALCULATE ALLOWABLE VOLTAGE DROP. THIS METHOD ALLOWS FOR A SMALL MARGIN OF SAFETY, TAKING INTO CONSIDERATION THAT THE ACTUAL INSTALLED CIRCUIT ROUTING MAY DIFFER FROM WHAT IS SHOWN ON THE SHOP DRAWINGS. IF THE ACTUAL CIRCUIT LENGTH IS GOING TO EXCEED THE MAXIMUM ALLOWABLE CIRCUIT LENGTH, CONTACT YOUR LOCAL SIMPLEXGRINNELL DISTRICT OFFICE.

SimplexGrinnell BE SAFE.
 A Tyco International Company

20 THOMAS DRIVE
 WESTBROOK, ME 04092
 SALES: 207-842-6440
 SERVICE: 207-842-6440
 FAX: 207-842-6439

NO.	DATE	REVISION DESCRIPTION

FIRE ALARM & APARTMENT INTERCOM SYSTEM

CHARTS & CALCULATIONS

ELM TERRACE

68 HIGH STREET
 PORTLAND, MAINE

DRAWN BY: LORION	DATE: 3/6/12
CHECKED BY: KALAFARSKI	DATE: 3/13/12
PROJECT NUMBER: 147420360	
SHEET TITLE: FA/INTERCOM SYSTEMS CHARTS & CALCULATIONS	
SHEET NUMBER: FA-602	