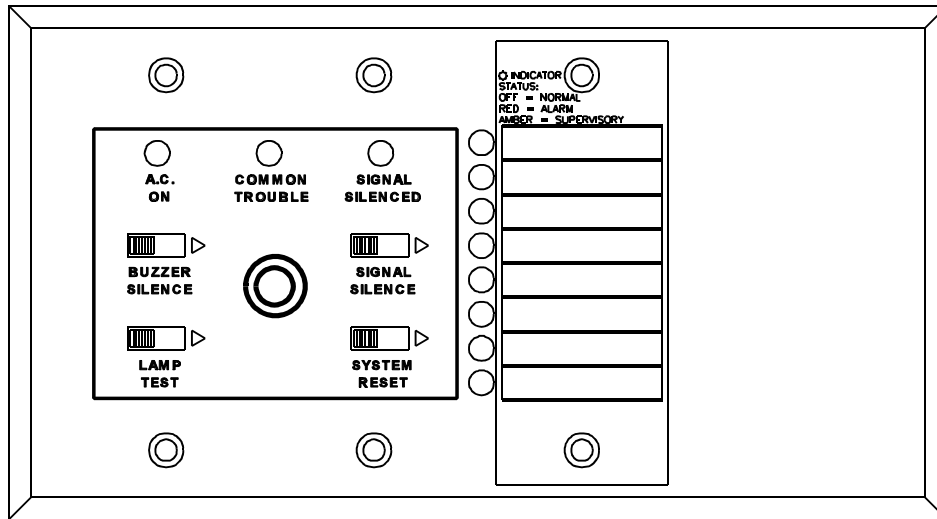




FW-RA-LED

Remote Multiplex Annunciator Panels

WIRING and INSTALLATION INSTRUCTION



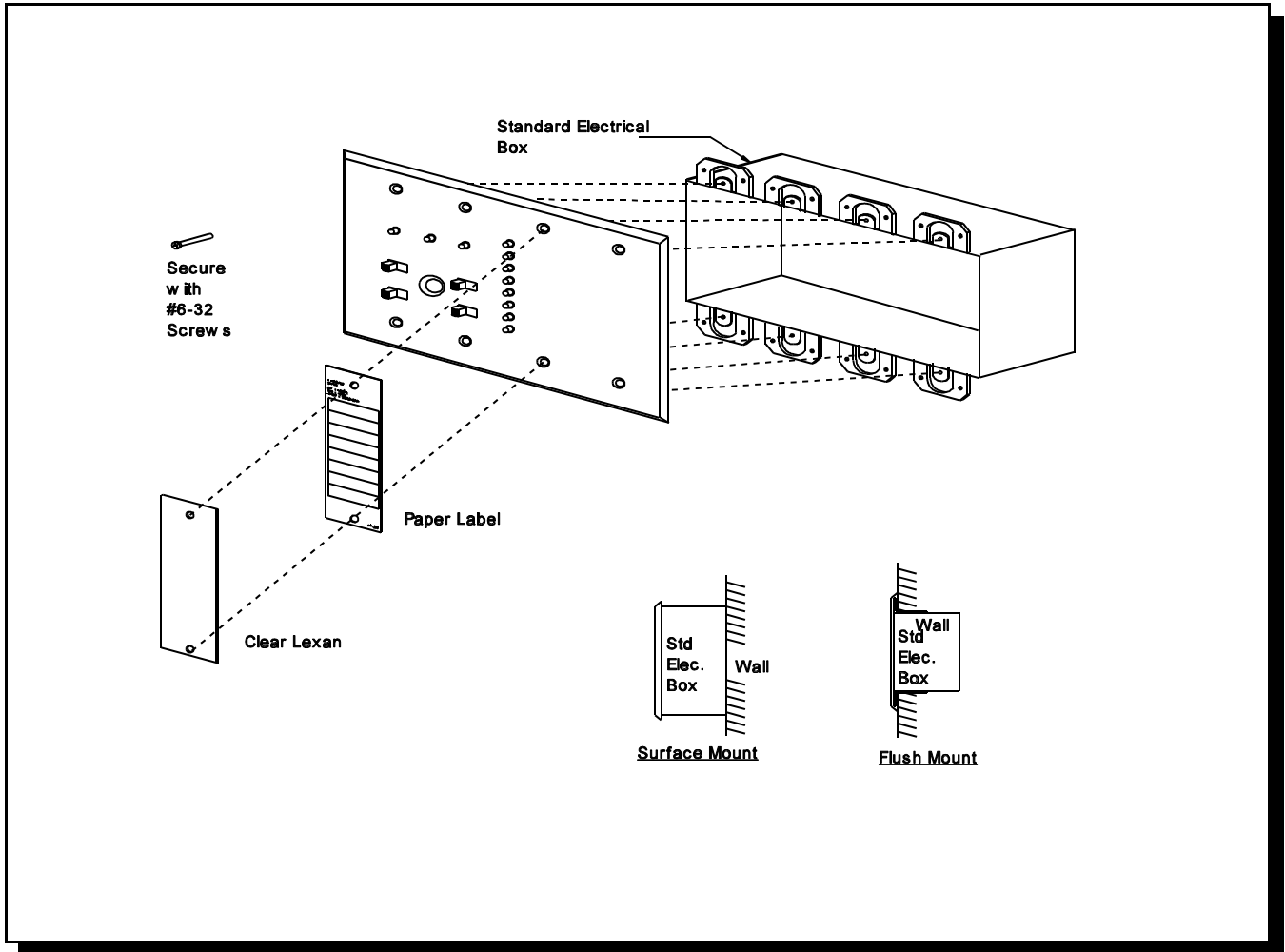
L NOTICE

All information, documentation, and specifications contained in this manual are subject to change without prior notice by the manufacturer.

INTRODUCTION:

NAPCO's **FW-RA-LED Annunciator** is an 8 Circuit Annunciator for use with **NAPCO's FW-C2Z, FW-C4Z, FW-C4EZ Fire Alarm Control Panels**, that mounts into a standard 4-gang electrical boxes, which may not be expanded. Control access is by a keyswitch. Each Circuit Indicator is a bi-colour LED that is automatically configured to match the Fire Alarm Control Panel configuration.

INSTALLATION INSTRUCTION:



NOTES: Note that the **FW-RA-LED** is supplied with **NP-386NAP Labels**.

This Annunciator displays Initiating Circuit Status only (no individual Circuit Troubles). Indicating and Relay Circuits are not remotely displayed. See the Fire Alarm Control Panel Manual for more details.

The **FW-RA-LED** has a keyswitch to enable the four slide-switch controls. The key should be appropriately secured.

CONTROLS & DISPLAYS:

For precise definitions of Control & Display operation, refer to the manual for the Fire Alarm Control Panel that the Annunciator is being connected to.

Controls

System Reset, Signal Silence,
Buzzer Silence, Lamp Test.

Displays

AC On, Common Trouble, Signal Silence,
8 Circuit Status LED's.

WIRING INSTRUCTION:

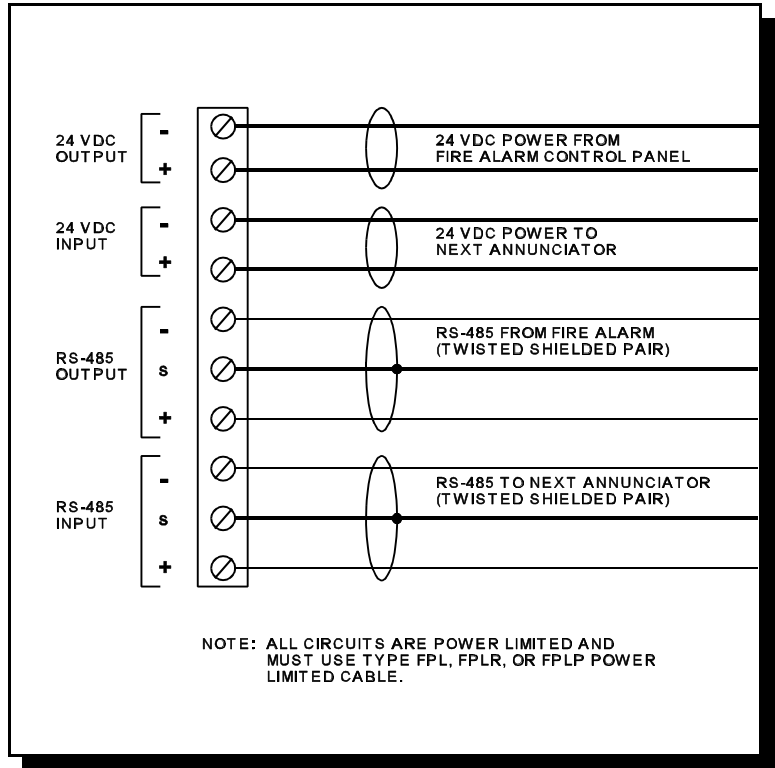
The **RS-485 Wiring** to the FW-RA-LED Module is recommended to be **Twisted Shielded Pair** as shown in the diagram. The wire gauge may be;

- 22 AWG up to 2000 ft.
- 20 AWG up to 4000 ft.
- 18 AWG up to 8000 ft.

The RS-485 wiring from the Fire Alarm Control Panel to the Annunciator(s) must be point-to-point from the FA Panel to the first Annunciator, then the next Annunciator, and so on. **No star-wiring or T-tapping is allowed.** Each RAM-208 Annunciator Module has a **120 ohm End-of-Line Resistor** on its RS-485 Output terminals. This is removed on all except the last wired Module.

The 24 VDC field wiring needs to be of an appropriate gauge for the number of annunciators and the total wiring run length. See the **Specifications** section "**Current Drain for Battery Calculations**"; and calculate the **Maximum** current for all Annunciators summed together ...

NOTE: Accidentally connecting any of the 24 VDC wires to the RS-485 wiring could result in damage to the Annunciator and/or to the Fire Alarm Control Panel that it is connected to !!!



Maximum for all Annunciators	MAXIMUM WIRING RUN TO LAST ANNUNCIATOR								MAX. LOOP RESISTANCE
	18AWG		16AWG		14AWG		12AWG		
Amperes	ft	m	ft	m	ft	m	ft	m	Ohms
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

DIP SWITCH SETTINGS:

Each Annunciator needs to be assigned a unique, sequential “**Address**”. This is done with DIP Switches, which also allow disabling of some buttons.

- SW1-1 = Address A0 \
- SW1-2 = Address A1 > Address “A3” is always “off”.
- SW1-3 = Address A2 /
- SW1-4 = When “off”, the System Reset and Signal Silence slide-switches are always disabled, regardless of the operation of the keyswitch.

The Annunciator “Address” (see the Manual for the Fire Alarm Control Panel being used), is set as ...

DIP Switch Positions	Annunciator “Address”						
	1	2	3	4	5	6	7
SW1-1 (A0)	on	off	on	off	on	off	on
SW1-2 (A1)	off	on	on	off	off	on	on
SW1-3 (A2)	off	off	off	on	on	on	on
SW1-4 (A3)	off	off	off	off	off	off	off

Annunciators on a common RS-485 connection must be numbered sequentially; i.e.: 1,2,3,4, and not randomly such as 5,3,7 !! Note that not all Annunciator “Addresses” are valid for all Fire Alarm Control Panels. Refer to the Fire Alarm Control Panel Manual for further information.

SPECIFICATIONS & FEATURES

Enclosure:

A standard 4-gang Electrical Box is used.

Electrical Specs.:

- Ž 19 to 31 VDC (filtered or full-wave-rectified)
- Ž Slide-Switch Controls, LED indicators, and Keyswitch to enable Controls.
- Ž Local Buzzer, Indicators (AC-On, Common Trouble, Signal Silence), and Controls (System Reset, Lamp Test, Buzzer Silence, Signal Silence).
- Ž Annunciation of up to 8 Points.
- Ž Not Expandable.
- Ž Standby: 35 mA Max., All LED’s “On”: 90 mA Max.

Current Drain for Battery Calculations:

The maximum normal current drain will be during Lamp Test when all lamps are illuminated on one chassis at a time. Thus the currents are ...

Normal Standby = 35 mA **Maximum** = 90 mA

The **Normal Standby Current** is used for Battery Size Calculations (see the Fire Alarm Control Panel manual) and includes the current drain for the Trouble Buzzer, Trouble LED, and one Alarm LED. The **Maximum Current** is used to calculate the wire size (see the **Wiring Instruction**).

WARRANTY

NAPCO SECURITY SYSTEMS, INC. (NAPCO) warrants its products to be free from manufacturing defects in materials and workmanship for 12 months following the date of manufacture. NAPCO will, within said period, at its option, repair or replace any product failing to operate correctly without charge to the original purchaser or user.

This warranty shall not apply to any equipment, or any part thereof, which has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to acts of God, or on which any serial numbers have been altered, defaced or removed. Seller will not be responsible for any dismantling or reinstallation charges.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THERE IS NO EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. ADDITIONALLY, THIS WARRANTY IS IN LIEU OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF NAPCO.

Any action for breach of warranty, including but not limited to any implied warranty of merchantability, must be brought within the six months following the end of the warranty period.

IN NO CASE SHALL NAPCO BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE SELLER'S OWN NEGLIGENCE OR FAULT.

In case of defect, contact the security professional who installed and maintains your security system. In order to exercise the warranty, the product must be returned

by the security professional, shipping costs prepaid and insured to NAPCO. After repair or replacement, NAPCO assumes the cost of returning products under warranty. NAPCO shall have no obligation under this warranty, or otherwise, if the product has been repaired by others, improperly used, abused, altered, damaged, subjected to accident, nuisance, flood, fire or acts of God, or on which any serial numbers have been altered, defaced or removed. NAPCO will not be responsible for any dismantling, reassembly or reinstallation charges.

This warranty contains the entire warranty. It is the sole warranty and any prior agreements or representations, whether oral or written, are either merged herein or are expressly cancelled. NAPCO neither assumes, nor authorizes any other person purporting to act on its behalf to modify, to change, or to assume for it, any other warranty or liability concerning its products.

In no event shall NAPCO be liable for an amount in excess of NAPCO's original selling price of the product, for any loss or damage, whether direct, indirect, incidental, consequential, or otherwise arising out of any failure of the product. Seller's warranty, was herein above set forth, shall not be enlarged, diminished or affected by and no obligation or liability shall arise or grow out of Seller's rendering of technical advice or service in connection with Buyer's order of the goods furnished hereunder.

NAPCO RECOMMENDS THAT THE ENTIRE SYSTEM BE COMPLETELY TESTED WEEKLY.

Warning: Despite frequent testing, and due to, but not limited to, any or all of the following; criminal tampering, electrical or communications disruption, it is possible for the system to fail to perform as expected. NAPCO does not represent that the product/system may not be compromised or circumvented; or that the product or system will prevent any personal injury or property loss

by burglary, robbery, fire or otherwise; nor that the product or system will in all cases provide adequate warning or protection. A properly installed and maintained alarm may only reduce risk of burglary, robbery, fire or otherwise but it is not insurance or a guarantee that these events will not occur. CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE, OR OTHER LOSS BASED ON A CLAIM THE PRODUCT FAILED TO GIVE WARNING. Therefore, the installer should in turn advise the consumer to take any and all precautions for his or her safety including, but not limited to, fleeing the premises and calling police or fire department, in order to mitigate the possibilities of harm and/or damage.

NAPCO is not an insurer of either the property or safety of the user's family or employees, and limits its liability for any loss or damage including incidental or consequential damages to NAPCO's original selling price of the product regardless of the cause of such loss or damage.

Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusions or limitation of incidental or consequential damages, or differentiate in their treatment of limitations of liability for ordinary or gross negligence, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Head Office:

**FIREWOLF Advanced Fire Products
NAPCO Security Systems, Inc.**

333 Bayview Avenue
AMITYVILLE, N.Y.
U.S.A. 11701

Phone: (516) 842-9400

IN NORTH AMERICA Phone: 1-800-645-9445

FAX Toll Free: (516) 789-9292

Web Page: <http://www.napcosecurity.com>

e-mail: techinfo@napcosecurity.com