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INSTALLATION INSTRUCTIONS

**GEM-EZM4, GEM-EZM8
 ZONE EXPANSION MODULES
 for MA3000, GEM-Series,
 Signature S5500 & SS-P Series
 Control Panels**

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WI583C 2/97

DESCRIPTION

The capacity of the MA3000, GEM-Series and Signature 5500 and SS-P Series control panels may be expanded through the use of GEM-EZM zone expansion modules. GEM-EZM4 modules provide up to four additional zones; GEM-EZM8 modules, up to 8 additional zones. Four-zone and 8-zone modules may be combined as necessary to supply the required number of zones. Refer to the installation instructions for the control panel in use for wiring requirements for UL-listed applications.

WIRING

Wire the expansion zones to the module and the module to the control panel in accordance with the wiring diagrams using wire no thinner than #22AWG. Install end-of-line resistors on all zones even if one or more zones are not used.

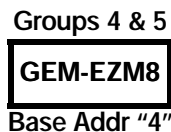
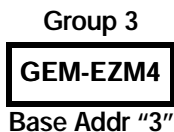
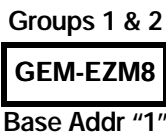
Note: The addition of Zone Expansion Modules will reduce the amount of current available at the control panel's Auxiliary Power Output terminals.

MODULE ASSIGNMENT

Regardless of how the modules are arranged, the expansion zones are divided into consecutively-numbered groups of four. Each 4-zone module comprises one group of zones; each 8-zone module comprises two groups.

Every module must be assigned a unique "base address". In the case of a 4-zone module, the base address number is the same as its group number. For the 8-zone module, the base address number will be the lower of its two group numbers. Note that (a) groups must be numbered consecutively (that is, missing numbers are not permitted); and (b) no two modules may be numbered alike.

Example. Two GEM-EZM8s and one GEM-EZM4 are used to provide 20 expansion zones:



The base address is assigned to the module by proper selection of Address Jumpers JP1-JP5 (to the right of the LED) in accordance with Table 1. Also refer to the Zone Wiring Diagram.

Base Address	Address Jumpers				
	JP5	JP4	JP3	JP2	JP1
1	ON	ON	ON	ON	OFF
2	ON	ON	ON	OFF	ON
3	ON	ON	ON	OFF	OFF
4	ON	ON	OFF	ON	ON
5	ON	ON	OFF	ON	OFF
6	ON	ON	OFF	OFF	ON
7	ON	ON	OFF	OFF	OFF
8	ON	OFF	ON	ON	ON
9	ON	OFF	ON	ON	OFF
10	ON	OFF	ON	OFF	ON
11	ON	OFF	ON	OFF	OFF
12	ON	OFF	OFF	ON	ON
13	ON	OFF	OFF	ON	OFF
14	ON	OFF	OFF	OFF	ON
15	ON	OFF	OFF	OFF	OFF
16	OFF	ON	ON	ON	ON
17	OFF	ON	ON	ON	OFF
18	OFF	ON	ON	OFF	ON
19	OFF	ON	ON	OFF	OFF
20	OFF	ON	OFF	ON	ON
21	OFF	ON	OFF	ON	OFF
22	OFF	ON	OFF	OFF	ON

Table 1. Jumper emplacement as a function of Base Address. Shaded area is not applicable to GEM-P3200 or SS-P3200.

PROGRAMMING

The control panel must be programmed with regard to the modules (4-zone or 8-zone) in use. Referring to the respective Programming Workbook, program *EZM TYPE* to enable the module. Starting in the first location and proceeding in succession, program a "1" for each 4-zone group of expansion zones in the system. For example, if one GEM-EZM8 is used for Zones 9 through 16 (two groups of 4), program a "1" in the *first* and *second* locations (*right "nibble"*). Similarly, if an GEM-EZM4 is used for Zones 17 through 20 (1 group), program a "1" in the *third* location (*right "nibble"*). Thus, each GEM-EZM4 will require a "1" in only one location whereas each GEM-EZM8 will require a

"1" in two consecutive locations.

TAMPER

If the cover is removed, the keypad sounder will pulse and the display will indicate a zone-module tamper condition along with the module number. Press [RESET] to silence the sounder.

LOOP RESPONSE

Loop response times for Zones 1 through 8 are programmed in the control panel. Normal loop response for all expansion zones is 750mS. To reduce the response time of an expansion zone to 50mS, cut the respective resistor at the upper-left corner of the board. Refer to the Wiring Diagram.

STATUS LED

The Status LED displays the condition of the zone module. The LED will blink every few seconds to indicate that each 4-zone group is operating normally. The LED in the 4-zone module will blink once; the LED in the 8-zone module will blink once for the first group, then double-blink shortly thereafter for the second. See *TROUBLESHOOT-*

ING for other indications.

PGM TERMINAL

The PGM terminal (Terminal 6) will go low when the area is armed. This terminal may be used to light an LED or trip auxiliary equipment. **Note:** This terminal is programmed in the control panel; it may be selected to trip when *any* one area is armed (not necessarily its own). Refer to the installation instructions for the control panel for programmable options.

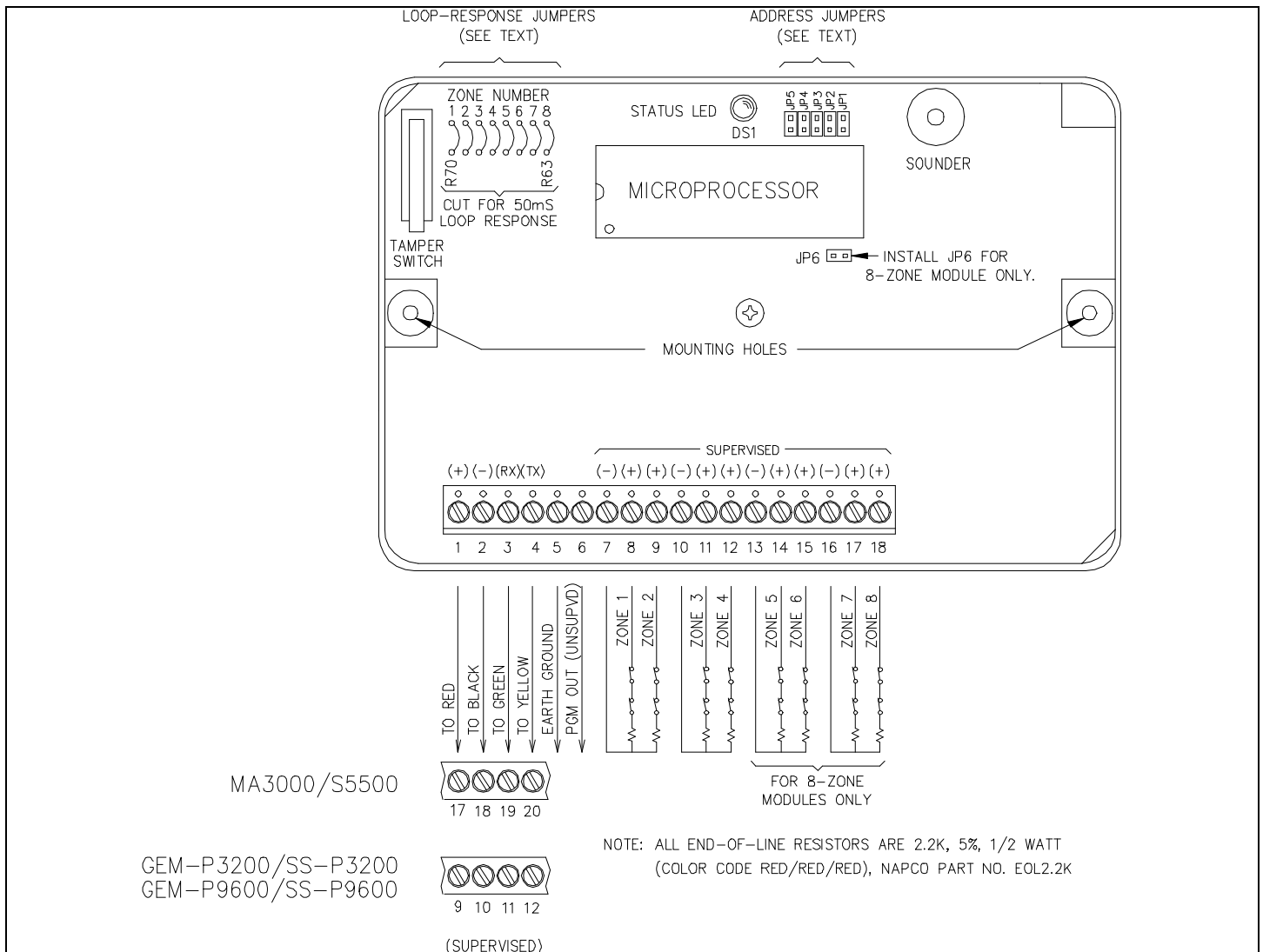
4Z/8Z ZONE JUMPER

To convert an 8-zone module for use with only 4-zones, remove the jumper just below the large microprocessor IC on the circuit board.

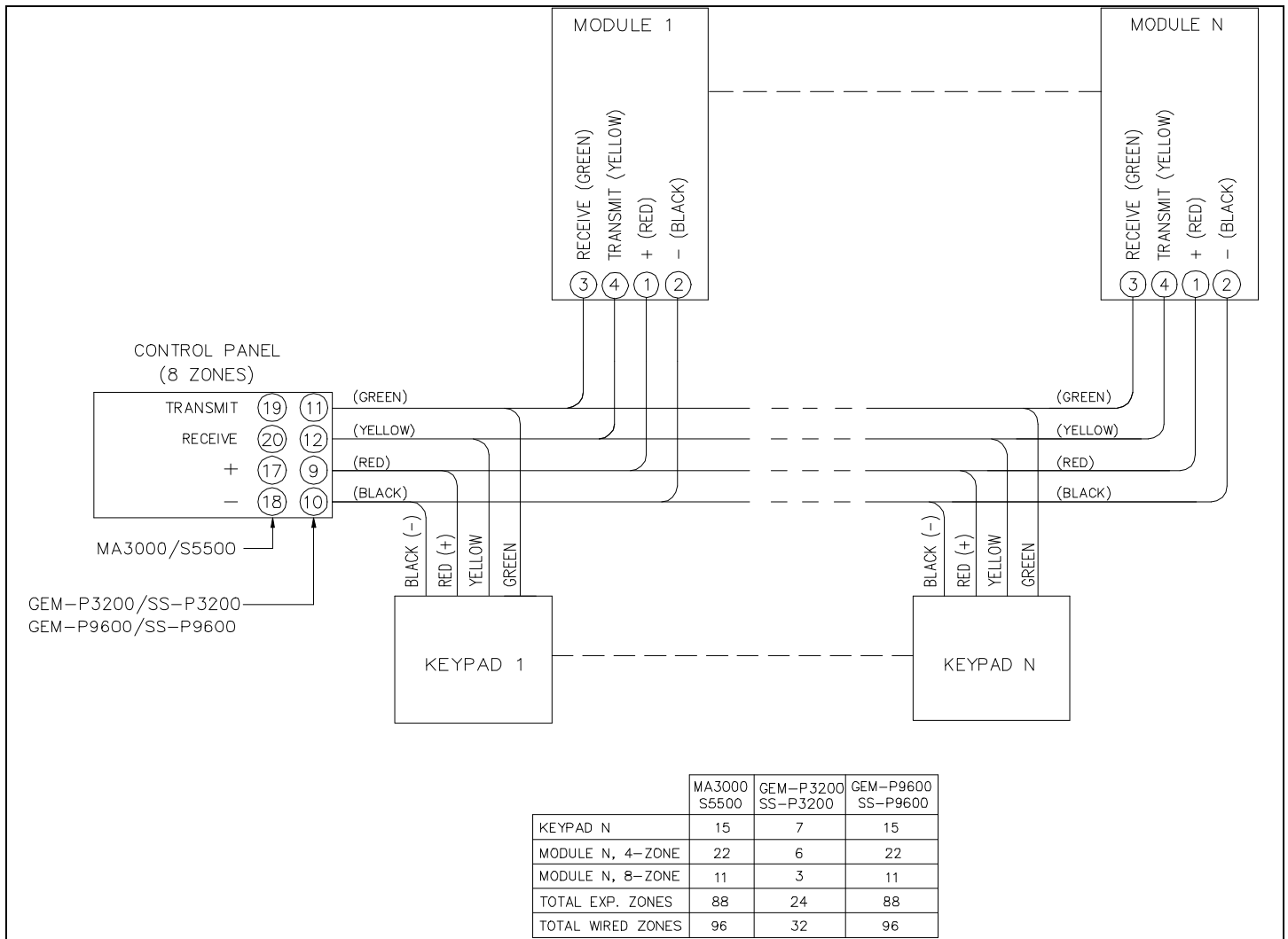
TROUBLESHOOTING

- A steady Status LED is most likely caused by loss of data reception from the control panel at the module's Terminal 3.
- No illumination is most likely due to a loss of power at Terminals 1 and/or 2.

WIRING DIAGRAMS



Zone Wiring Diagram.



System Wiring Diagram.

NOTES

NAPCO LIMITED WARRANTY

NAPCO SECURITY SYSTEMS, INC. (NAPCO) warrants its products to be free from manufacturing defects in materials and workmanship for thirty-six 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 installed, 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 purport-

ing 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, as hereinabove 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 exclusion 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.