

# TROUBLESHOOTING Nos. 1022 AND 1022-12

TROUBLE: 1. SYSTEM APPEARS TO HAVE NO POWER.

<u>PROBABLE CAUSE</u>	<u>REMEDY</u>
A. <u>AC power is interrupted</u> (green LED unlit) <u>accompanied by a discharged or disconnected battery</u> . Dimly lit red LEDs as well as a bell not ringing when the BELL TEST switch is depressed, are the symptoms of a highly discharged battery (see Part B, below).	A. <u>Be sure that power at AC outlet is active 24 hours</u> . <u>Be sure that rechargeable cells are connected properly to panel through molded plug and socket connection</u> (use No. 1320 transformer for No. 1022; use No. 1323 transformer for No. 1022-12).
B. <u>Highly discharged or dead battery</u> (measure battery voltage across red and black flying leads. 6 volts is the proper reading obtained with the BELL TEST switch depressed (12 volts in the case of No. 1022-12). To determine if battery is capable of being recharged, follow the procedure below: <ol style="list-style-type: none"><li>1. Remove protective circuit wiring from panel by disconnecting all wires from terminals 1 through 9.</li><li>2. Remove all auxiliary devices if used, from terminals 13 and 14, and remove bell(s) or other sounding devices attached to terminals 24 and 25.</li><li>3. Allow the battery to charge for 24 hours in this manner (making sure that the transformer is properly plugged in, and the green panel LED is lit).</li><li>4. If, after 24 hours, the bell (or other sounding device) does not ring satisfactorily during the bell test, replace battery with No. 496 (No. BP-1 if using 1022-12) rechargeable battery pack.</li></ol>	B. <u>Replace battery with No. 496</u> (No. BP-1 in the case of No. 1022-12) if bell test fails as indicated under PROBABLE CAUSE.

NOTE 1: Under no circumstances may auxiliary devices (e.g. photoelectric units, ultrasonics, remote station adapters, etc.) drawing a total current greater than 150 ma be attached to terminals 13 and 14 of the control panel. Check the current draw for each device by consulting its particular specifications in its Installation Instructions.

NOTE 2: If, after a prolonged alarm condition, new batteries are required, old batteries must be put on a 24 hour charge without a load on the control as described above under Part B, Sections 1, 2, and 3. DO NOT leave a sealed lead acid battery in a highly discharged condition for more than 48 hours without charging.

NOTE 3: Sealed lead acid batteries must be fully charged after each 6 months of unused storage conditions.

NOTE 4: Do not operate the No. 1022 or 1022-12 without a battery. The bell test feature will not work and some problems may occur as the keyswitch is operated.

TROUBLE: 2. ZONE STATUS LED(s) LIT AT ALL TIMES.

<u>PROBABLE CAUSE</u>	<u>REMEDY</u>
A. <u>A point of entry is open, or a break, short circuit, or ground, exists in the protective loop(s).</u> See the troubleshooting procedure below:	A. <u>Take corrective action to restore protective circuit(s) to their proper status</u> (see Part I, Section H).
1. Remove the wires from the particular zone indicating a fault or opening (i.e. terminals 1 and 2 for the Entry/Exit Delay Zone, terminals 3 and 4 for zone 1, terminals 5 and 6 for zone 2, terminals 7, 8, and 9 for the Series and 24 Hour Zone.	
2. In the case of all zones except the Series Zone, attach a 1000 ohm resistor (No. 606) or in the case of No. 1022-12, a 2000 ohm resistor (No. 607) to the proper zone terminals. The Series Zone, terminals 7 and 8, can be shorted together with a jumper.	
3. If the particular zone status LED on panel goes out, the trouble will be found in the protective loop. If the LED remains lit, see Part D, below.	
B. <u>The loop resistance on the faulty zone does not meet specifications</u> (disconnect the loop wires from the zone in question as described in Part A, Section I, above. With an ohmmeter, measure the resistance of the problem loop. The proper resistance reading for all zones except the Series Zone, should be between 1000 and 1500 ohms (or between 2000 and 2500 ohms in the case of No. 1022-12). The proper resistance of the Series Zone should be no greater than 500 ohms).	B. <u>Inspect the protective loop for dirty contacts, short circuits, grounds, or breaks as described in Part I, Section H, if the resistance measured differs greatly from that which is outlined here.</u>
C. <u>Dead or discharged battery</u> (if red panel LEDs are dimly lit, see TROUBLE I, Parts A and B).	C. <u>Recharge and/or replace battery pack per instructions in TROUBLE I, Part B.</u>
D. <u>Problems exist in the control panel circuitry.</u>	D. <u>Return control for repair.</u>

NOTE: The front panel tamper switch, located in the upper right-hand corner of the panel must be overridden when troubleshooting a panel with the cover open, otherwise an open circuit will exist in the zone into which the tamper switch is wired. To override, pull the plunger outward.

TROUBLE: 3. GREEN LED ON PANEL IS LIT MORE BRIGHTLY THAN NORMAL.

<u>PROBABLE CAUSE</u>	<u>REMEDY</u>
A. <u>Disconnected rechargeable battery.</u>	A. <u>Reconnect battery pack securely to the molded connector at the end of the red and black flying leads on the panel.</u>

TROUBLE: 4. ALARM SOUNDS WHENEVER KEYSWITCH IS PLACED IN THE NIGHT POSITION.

<u>PROBABLE CAUSE</u>	<u>REMEDY</u>
A. <u>Grounds or breaks in protective circuit wires, contacts, or foil; a short exists between loop wires, or a loop resistance that does not meet specifications, will all cause an alarm once the system is armed (see TROUBLE 2, Parts A and B).</u>	A. <u>See TROUBLE 2, Parts A and B, and the Troubleshooting Section of this manual in Part I, Section H).</u>
B. <u>Sticking bell relay contacts.</u>	B. <u>Unit must be returned for servicing.</u>

TROUBLE: 5. THE SERIES/24 HOUR LED LIT, ACCOMPANIED BY BUZZER SOUNDING.

<u>PROBABLE CAUSE</u>	<u>REMEDY</u>
A. <u>An open, short circuit, or grounded condition exists in the DAY ZONE loop (remove wires from panel terminals 8 and 9; with an ohmmeter, look for a resistance of 1000 to 1500 ohms (2000 to 2500 ohms in the case of No. 1022-12). across wires just removed. If ohmmeter reads infinity or a very high resistance, suspect window foil or foil take-off blocks if wired into the DAY ZONE).</u>	A. <u>Troubleshoot DAY ZONE protective circuit according to guidelines set forth in Part I, Section H of this manual.</u>
B. <u>Problems exist in the AB bell box (AB-12 when using No. 1022-12) when using panel in a UL prescribed manner. Follow these testing procedures:</u>	B. <u>Inspect ground connection (see installation wiring diagram) for cleanliness, tightness, and continuity. Inspect tamper switches on bell box for proper operation and see that bolts holding bell box cover are secure and tightened fully.</u>
1. <u>If the ohmmeter test, as describer in Part A, above, reveals a very high resistance or an open circuit, suspect a faulty ground connection or defective tamper switch(es) on the bell box.</u>	
2. <u>If ohmmeter test reveals a short circuit or a resistance lower than 1000 ohms (2000 ohms when using No. 1022-12), suspect a short between the inner and outer shell of the UL bell box.</u>	
C. <u>Defect in panel circuitry (to test, re-</u>	C. <u>Return panel for servicing if the</u>
<u>move wires going to terminals 8 and 9 of control panel, and substitute a No. 606, 1000 ohm resistor (use No. 607, 2000 ohm resistor for No. 1022-12). The buzzer should cease.</u>	<u>buzzer continues to sound.</u>

TROUBLE: 6. DURING BELL TEST, BELL OR OTHER SOUNDING DEVICE OPERATES BUT DOES NOT GIVE FULL SOUND.

PROBABLE CAUSE

REMEDY

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|---|---|
| A. <u>Low battery voltage</u> , (see TROUBLE 1, Parts A and B).   | A. <u>Be sure AC transformer is plugged into a 24 hour outlet</u> . Look for the green LED indication on panel. See indicated procedures in TROUBLE 1, Part B. Be sure a No. 1320 transformer is used with No. 1022. Use a No. 1323 transformer with No. 1022-12. |
| B. <u>Bell line does not conform to specified procedures</u> (see note at the end of this section; see also Part I, Section G of this manual).            | B. <u>Make the necessary changes in the bell line run</u> .   |
| C. <u>Improper bell mounting has caused bell clapper to jam</u> .   | C. <u>Inspect mounting and bell dome position</u> . Correct any binding or jamming by rotating dome so bell clapper points to the dot on the dome.  |
| D. <u>Short circuit in bell wires</u> (see Part I, Section G for troubleshooting bell connections).   | D. <u>Replace wires to bell</u> , being careful to avoid conditions that will cause short circuits.   |
| E. <u>Defective bell</u> (if possible, test system with new bell).  | E. <u>Replace bell if necessary</u> .   |
| F. <u>Dirty or corroded bell relay contacts</u> .   | F. <u>Unit must be returned for servicing</u> .   |
| G. <u>When using an electronic siren, howler, or blaster, problems exist with the particular sounding device and/or the module supplying the signal</u> . | G. <u>See the Installation and Troubleshooting section for the particular sounding devices and modules used</u> .   |

TROUBLE: 7. WITH THE SYSTEM ARMED, THE BELL OR OTHER SOUNDING DEVICE DOES NOT OPERATE WHEN A ZONE IS OPENED.

PROBABLE CAUSE

REMEDY

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| A. <u>Tripped circuit breaker</u> (be sure that the device(s) used for sounding draw no more than 2.5 amperes, less any auxiliary load connected to terminals 13 and 14. Be sure, too, that sounding device(s) are properly connected to terminals 24 and 25). | A. <u>The circuit breaker will reset automatically</u> once the conditions which caused it to trip are corrected. |
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PROBABLE CAUSE

REMEDY

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| B. <u>Shorted, disconnected or broken wires between control and sounding device</u> (check wiring between panel terminals 15 and 16 and bell, or driver module if an electronic siren is being used. In the latter case, be sure to observe proper polarity. Also check wiring from driver module to siren, bearing in mind the guidelines in the NOTES at the end of this section). | B. <u>Repair or replace defective wiring as required.</u>                |
| C. <u>Battery and/or power supply problems</u> (perform bell test; if bell does not operate, see TROUBLE 1, Parts A and B).  | C. <u>See TROUBLE 1, Parts A and B.</u>                                  |
| D. <u>Dirty or corroded contacts of bell relay.</u>  | D. <u>Unit must be returned for servicing.</u>                           |
| E. <u>Bound bell clapper.</u>  | E. <u>Free or adjust bell clapper (see TROUBLE 5, Part C).</u>           |
| F. <u>Stuck contact in protective circuit failing to release upon entry.</u>   | F. <u>Check each contact for proper operation. Replace as necessary.</u> |

TROUBLE: 8. BELL CIRCUIT DOES NOT LATCH ON ALARM. WHEN CONDITION CAUSING THE ALARM IS CORRECTED, THE BELL STOPS EVEN THOUGH THE SYSTEM REMAINS ARMED.

PROBABLE CAUSE

REMEDY

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| A. <u>Problems with bell relay or alarm circuitry.</u> | A. <u>Unit must be returned for repair.</u> |
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TROUBLE: 9. FALSE ALARMS OCCUR DUE TO SWINGERS IN THE PROTECTIVE CIRCUIT.

PROBABLE CAUSE

REMEDY

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| A. <u>A swinger or intermittent current breaker exists in a zone of protection</u> (trouble may also be caused by an improperly installed ultrasonic or photoelectric detector). Look for weak points at foil take off blocks or pinched wiring where protective loop turns corners or enters walls. | A. <u>Use No. 12 tester or equivalent to locate faults (see Part I, Section H, for instructions on the use of the No. 12 device).</u> |
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NOTE: Choose the FAST loop option for devices with quick response time such as vibration contacts, Glass Sentries, or photoelectric units without built-in delay. Choose the NORMAL loop option for all other devices especially where window foil is used. Cut appropriate jumper to determine response time of each loop. See Installation Instructions.

TROUBLE: 10. STEPPING ON FLOOR MAT (IF USED) DOES NOT TRIP ALARM.

PROBABLE CAUSE

REMEDY

- A. Too much resistance in wires from floor mat.
- B. Improperly installed floor mat.

- A. See Installation Notes on floor mats, 1000 Series Controls, page 105.
- B. See Installation Notes on floor mats, 1000 Series Controls, page 105.

TROUBLE: 11. WHEN USING A STROBE LIGHT AS AN ALARM INDICATOR, THE LIGHT FAILS TO FLASH WHEN ACTIVATED.

PROBABLE CAUSE

REMEDY

- A. Polarity reversed to strobe light.
- B. Trouble in strobe light circuitry, burned out strobe lamp, breaks in wiring.
- C. Low battery or power supply voltage (be sure that voltage output across terminals 24 and 25 of panel measures 6 volts DC on alarm (12 volts DC for No. 1022-12). Be sure that the batteries are fully charged - charge for 24 hours without a load if an under-voltage condition exists. See TROUBLE 1, Part B.

- A. Observe proper polarity. To terminal 25 of the panel, attach the positive (+) wire of the strobe. To terminal 24, attach the negative (-) wire.
- B. Correct particular trouble as required.
- C. If voltage measures less than 5 volts while strobe light is operating, (11 volts in the case of No. 1022-12) allow batteries to charge fully, as explained in TROUBLE 1, Part B.

TROUBLE: 12. ONCE ACTIVATED, THE ALARM SOUNDS AT ALL TIMES WITHOUT THE ABILITY TO BE RESET.

PROBABLE CAUSE

REMEDY

- A. A short circuit exists in the 24 hour panic circuit wiring, or between terminals 23 and 24 on the control panel.
- B. An emergency (panic) switch has been activated.

- A. Repair or replace shorted wiring.
- B. Check locking type panic switch used. Reset if required.

TROUBLE: 13. WHEN USING TERMINALS 15 THROUGH 20 FOR DRY CONTACTS ACTIVATED ON ALARM, THE ATTACHED DEVICES (DIALER, DIGITAL COMMUNICATOR, FLOODLIGHTS, REMOTE SOUNDING DEVICE) DO NOT OPERATE DURING A HOLD-UP OR BURGLAR ALARM.

PROBABLE CAUSE

REMEDY

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| A. <u>Incorrect wiring hookup to panel terminals</u> (on alarm, the relay supplied can trip two independent sets of contacts to be used to turn on external devices. During a break-in or during silent alarm activation, closure exists between terminals 16 and 17, and between 19 and 20. Wire these devices to either set of terminals). | A. <u>Correct wiring to conform with proper usage.</u>  |
| B. <u>Dirty or corroded contacts on relay</u> (to check, remove all devices from terminals 16 and 17, and 19 and 20; by means of a jumper, short panel terminals 23 and 24 together. Check for zero resistance between terminals 16 and 17, and 19 and 20, indicating proper contact closure; remove jumper wire).                           | B. <u>Return panel for servicing if relay contacts fail indicated test.</u>   |
| C. <u>Open wiring to the devices operating off the control panel.</u>  | C. <u>Check wiring between the control panel and the attached devices for breaks.</u>   |
| D. <u>Power supply problems or individual operating problems with the attached devices.</u>  | D. <u>Check voltage source supplying power to the attached devices. If the problem persists, see the Trouble-shooting Section for the units involved.</u> |

TROUBLE: 14. WHEN USING TERMINALS 15 THROUGH 20 FOR DRY CONTACTS ACTIVATED ON ALARM, ATTACH DEVICES (DIALER, DIGITAL COMMUNICATOR, FLOODLIGHTS, REMOTE SOUNDING DEVICE) OPERATE AT ALL TIMES.

PROBABLE CAUSE

REMEDY

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|---|---|
| A. <u>Incorrect wiring hookup to panel terminals</u> (use terminals 16 and 17 and/or 19 and 20 for activation on alarm--see TROUBLE 15, Part A).        | A. <u>Correct wiring.</u>   |
| B. <u>Shorted wiring exists at panel terminals 16 and 17, and/or 19 and 20, or in the wires leading from the control panel to the auxiliary device.</u> | B. <u>Check wiring for shorts that would cause a "runaway" condition.</u> |

PROBABLE CAUSE

REMEDY

- C. Stuck contacts in burglary/holdup relay causing continuous activation of external devices (remove wires from panel terminals 15 through 20; there should be infinite resistance between terminals 16 and 17 and 19 and 20 when panel is NOT in an alarm condition.
- C. Return panel for servicing if the conditions described at the left are not met.

TROUBLE: 15. WHEN LOCK-IN HOLDUP DEVICE IS ACTIVATED, NOTHING HAPPENS (ALL OTHER SYSTEMS WORK NORMALLY).

PROBABLE CAUSE

REMEDY

- A. Disconnected or open wiring along the route from holdup switch to panel terminals 23 and 24.
- A. Check wiring for continuity. Repair or replace as necessary.
- B. Problems with particular lock-in type emergency switch.
- B. Check particular switch for continuity on operation. Replace if necessary.

TROUBLE: 16. WHEN USING PANEL IN MODULARM OR MINI-MODULARM APPLICATIONS, THE CENTRAL STATION DOES NOT RECEIVE SIGNALING VOLTAGE FROM THE PANEL OR REVERSING VOLTAGE ON ALARM.

PROBABLE CAUSE

REMEDY

- A. Incorrect wiring hookup (be sure to conform to the installation wiring diagram contained in the instructions. Be sure, too, that a jumper is installed between panel terminals 15 and 20, and between 17 and 18).
- A. Correct wiring as necessary.
- B. Telephone lines exceed the 2 to 3 mile limit (maximum resistance in lines should be no greater than 1250 ohms) accompanied by too low a voltage at terminals 16 and 19.
- B. For No. 1022, use a Telephone Line Voltage Booster, No. 349, for telephone lines exceeding the maximum resistance limit (see instructions contained in the unit). For No. 1022-12, the voltage applied to the telephone lines should be sufficient to compensate for long lines. (Be sure to see Note 2 of the installation wiring diagram. Alter the resistance as required to obtain the proper current through the modularm device).

PROBABLE CAUSE

REMEDY

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| <p>C. <u>Dirt or corrosion on reversing relay contacts</u> (to check for proper contact operation, remove all wires from panel terminals 15 through 20; using an ohmmeter, look for zero resistance between terminals 15 and 16, and between terminals 18 and 19. By means of a jumper, short panel terminals 23 and 24 together. Check for zero resistance between terminals 16 and 17, and between 19 and 20).</p> | <p>C. <u>Return the panel for servicing if indicated resistance measurements are not obtained.</u></p> |
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TROUBLE: 17. WHEN USING A DIGITAL COMMUNICATOR EQUIPPED TO RELAY OPENING AND CLOSING SIGNALS, NONE ARE RECEIVED AT THE CENTRAL STATION.

PROBABLE CAUSE

REMEDY

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| <p>A. <u>Disconnected, broken, or improperly attached wires, between the panel output wires and the appropriate terminals on the Opening and Closing Switching Module (if used), and/or between the switching module and the digital communicator.</u></p> | <p>A. <u>Check wiring carefully and restore as per instructions of the particular device(s).</u></p> |
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NOTE: WIRE RUNS FOR BELLS OR OTHER SOUNDING DEVICES

For runs of up to 50 feet, use 16 gauge wire.  
For runs between 50 and 100 feet, use 14 gauge wire, or preferably double 16 gauge wire (thus having four wires going to the sounding device).  
For wire runs of over 100 feet, see Part I, Section G of this manual.

NOTE: Do NOT make a metallic connection between the cabinet of the No. 1022 and the cabinet of any auxiliary equipment used with it, such as the Nos. 612, 679, etc. (Conduit connection to the bell housing is an exception.)

Such a cabinet-to-cabinet connection may cause a fault in one of the protective zones.