

***EasyLoader***  
**AV-4044, 4008 Pro**  
**AV-4009 Dublo**  
**AV-4016 Dublo**  
(for LCD keypads)

**Integrated Alarm Control panel &  
Communicator 8 zones**

**PSTN SMS Enabled**

***Installation and Operation Large Manual***  
**Version 1.05 Preliminary**

***Edition I***

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This product is subject to continuous enhancements and therefore  
specifications may be changed or altered without prior notice

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## Introduction series AV-4000 LCD keypads

This is a full manual for series 4000 alarm panels supplied as reference (not with panel).

The alarm model suffix indicates the keypads compatibility: PRO is for LCD keypad; Dublo is for LCD keypad and are expandable alarm panels.

AV-4044 PRO, AV-4008 PRO, AV-4009 & AV-4016 Dublo are compatible with Av-Gad LCD keypads (AV-705, AV-706, AV-707).

In series 4000 all alarm panel models share the same programming table, provides faster and simpler way to handle and programming for the installer.

- Dials to six phone numbers
- Dials and reports to two different central stations
- Sends SMS messages via PSTN (saves the SIM card and GSM fee) to four numbers
- Signal test to central station in few modes
- Added special outdoor detectors zone, named Pulse Count zone
- Now with 32 users codes

The AV-4009 & AV-4016 Dublo alarm and events sent by SMS (via PSTN line that supports SMS) without programming. Examples: "Zone 1" during alarm the SMS received by user quoted as "Zone 1", or if low battery detected "Low Battery" SMS is transmitted. SMS selection is optional.


Series 4000 been revised for higher security when using remote PC and remote DTMF in order to prevent criminal system tampering.

Pay attention to new default programming setting.

### Tips to first time installer

If you are a first time installer, do not hook up any remote sensors at first. The most common confusion comes about when the **alarm will refuse to arm**, because a zone is "troubled". Complete the power supply, siren, keypad and strobe wiring, and for the moment connect ALL the zone terminals to -V. This will simulate a system with all zones looped out through closed switches. The alarm is supplied already programmed with an "average" list of settings (default) and can be used straight away, a few of the program locations may have to be changed to suit the actual sensors and output devices used.

The AV-4044 Pro, AV-4008 Pro, AV-4009 & AV-4016 Dublo are compatible with LCD keypads, don't use or mix LED keypads.

- 📖 Read this manual carefully, it looks complicated, but all the information is there
- 📖 Do not power up with battery! Use the AC power for start and testing. Programming code is 1994
- 📖 To start with: Hook up the keypad, connect all zones to -V or apply resistors for 8 zone mode, power-up by applying AC only
- 📖 In case the keypad displays 'No communication' and keys not respond verify the minus (-V) wire and other keypad connection. In LCD panels enter # after the password or programming entry.
- 📖 Arm and disarm the system, when the Status LED light (not blinking), enter your master code; 1234
- 📖 Try the hold-down functions. Hold each key for approximately 2 seconds
- 📖 Set the system time by holding-down key '0' then '1', enter time in 24H format, blinking H stop
- 📖 The default programming is set for siren alarm device that requires 12V to alarm (Bell Mode)
- 📖 System dialer is noisy? You need ADSL filter. Check if the PSTN line carries ADSL signals
- 📖 Make sure you are using the Earth terminal  for Grounding; it is not a minus terminal
- 📖 Typing six erroneous codes will lock the keypad keys for 30 seconds
- 📖 Fast test: Verify "Dial LED" Self-Test at Initialization (STI) - Blinks for the first 50 seconds after power on, confirms panel is operative, from keypad wait to six beeps to confirm communication OK.
- 📖 In program mode press 200 and # to display control panel type & software version

## Revision changes

Date	Version	Contains
05-Apr-2014	1.00	First published
02-Jan-2015	1.10	Added features
14-Oct-2015	1.10	Updated programming table
10-May-2018		Added software version check procedure

## Keypad AV-707 short description

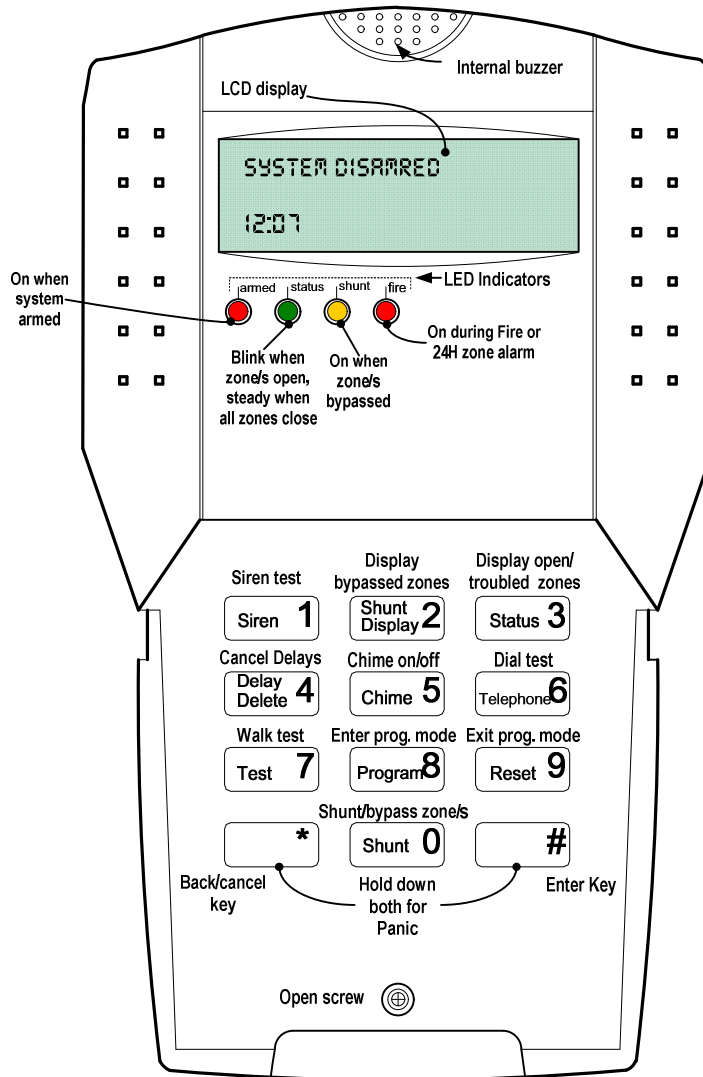


Figure 1: AV-707 LCD keypad description

### Common Terms in this Manual

- 'SHUNT' and 'BYPASS' are interchangeable terms
- Program Mode - Enables features programming, Programming is displayed, alarm is disabled
- Use Mode – System is disarmed and not in alarm or program mode
- AV-706 and/or AV-707 is identical in operation

- Standard Keypad functions are accessed by pressing keys (short press). The 1 to 0 keys used for Arming/Disarming (ON/OFF), Zone Shunt (Bypass) and other programming functions.
- A short beep confirms each key press.

A short press on keypad key accesses the following special functions:

Chime **5**

Instant Arming, by pressing key '5' (requires programming).

Shunt **0**

Zone Bypass, by pressing key '0,' followed by entering the Zone number/s Group Bypass explained in the keypad section.

For full details refer to the keypad section in this manual and the LED keypad manual.

The series 4000 boards carries a specific identification label (refer to wiring diagram) that shows the software version and panel type.

#### **Electronic Fuse Overview**

The Electronic Fuse device included as a series element in electric circuit. In response to an over current it protects the circuit by going from a low-resistance to a high-resistance state that reduces the current to a level that's safe for the circuit elements. The change in resistance is the result of a rapid increase in the temperature of the device. Like traditional fuses, Electronic Fuse devices interrupt the flow of dangerously high current. However, unlike traditional fuses, they automatically reset after the fault cleared and power to the circuit removed. Because they are solid-state, Electronic Fuses are also better able to withstand mechanical shock and vibration, and provide reliable protection in a wide variety of applications. In case of over current, carefully touch the fuse body (yellow round disc), hot body means the Electronic Fuse in protection mode, disconnect the load and wait 2-3 minutes until the fuse body get cooler.

## 2. WIRING DEVICES TO THE PANEL

### 2.1 Zone Wiring

Your system provides two ways of zone wiring: None EOL resistor loop (factory default), EOL resistor loop only for zone 4 and 8. The EOL loop protects the zone lines against tampering.

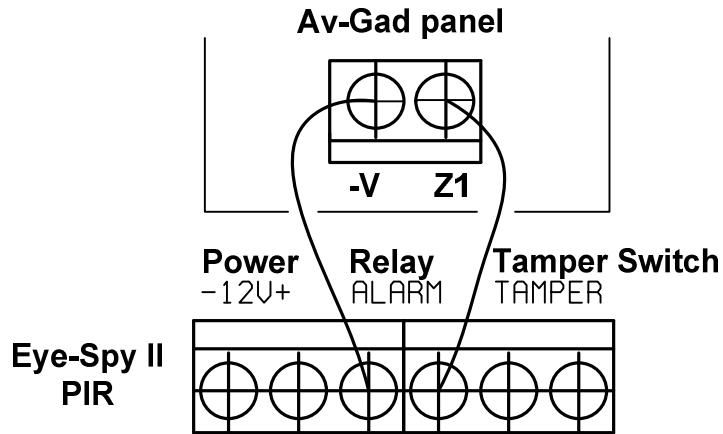


Figure 2.1: None EOL mode zone wiring

Maximum zone wiring length is 200 meters using 0.5-mm<sup>2</sup> wires, EOL mode wiring is highly recommended.

Note: 'Zone' and 'Sector' are interchangeable terms in this manual.

An EOL zone will report Tamper alarm in case of zone shorting (if it has been EOL programmed). For connecting N.O. zones, programming is required, refer to address 304. Do not connect few sensors to one zone in EOL mode.

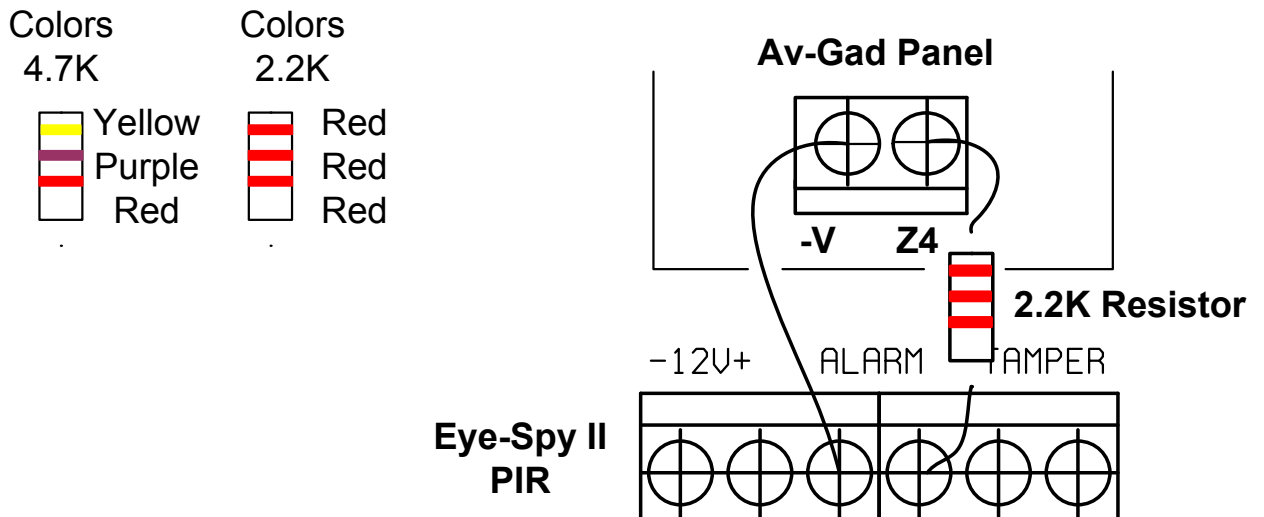


Figure 2.3: EOL mode zone wiring (Requires programming)

## 2.2 AV-4016 AV-4009 EOL Zone Wiring

The AV-4009 & AV-4016 Dublo board carries a specific identification label (refer to wiring diagram) that shows the version and panel model.

The AV-4009 & AV-4016 are programmed as none EOL zone by factory default. The zones are referred to -V. Connect two wires to the same terminal, one wire in series with the 2.2.K resistor and the sensor contacts (relay), the other wire in series with 4.7K resistor and other contacts.

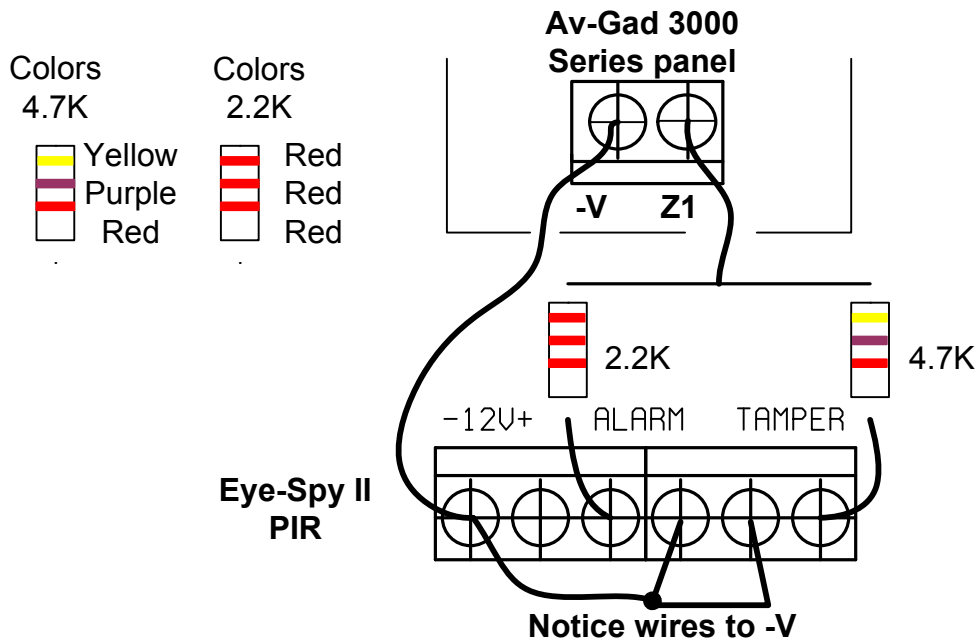


Figure 2.3: EOL mode zone wiring

The 2.2K resistors are wired with alarm zones, the 4.7K are wired with the Tamper zone. Some countries are used to different double-pole wiring as shown in figure 2.4. For this wiring, follow the drawing. European double-pole wiring requires 1.5K resistors (1.5K resistors not supplied).

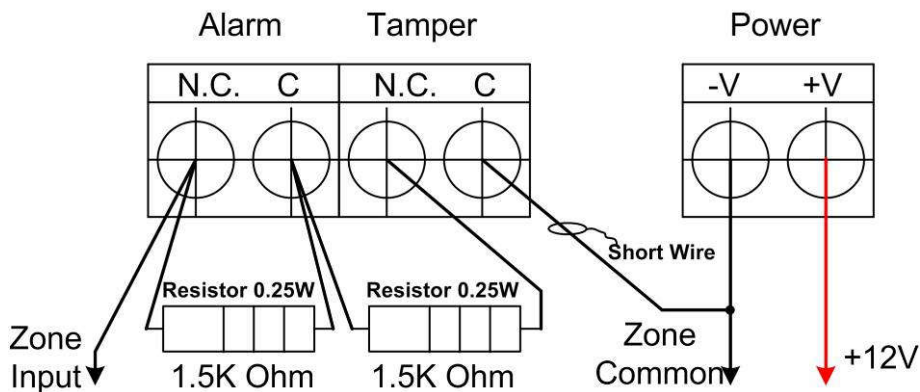


Figure 2.4: European Double-Pole wiring drawing



## 2.3 Zone Wiring AV-4008

Your system provides two ways of zone wiring: None EOL resistor loop (factory default), EOL resistor loop only for zone 4 and 8. The EOL loop protects the zone lines against tampering.

In AV-4008 zone 4 and/or zone 8 are capable being an EOL zone by setting the PCB jumpers as the table below show. Programming is not required.

If EOL mode is selected install the EOL resistor (2.2K or 4.7K/0.25 or 0.5W) inside the detection device (e.g. PIR, Magnetic Switch).

### AV-4008 EOL mode zone 4/8






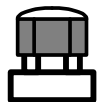
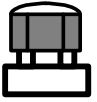
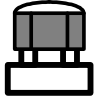
JP6	JP3	Zone 4	Zone 8
		Not EOL	Not EOL
		2K2	Not EOL
		Not EOL	4K7
		2K2	4K7

Figure 2.2: EOL mode PCB jumper settings

Maximum zone wiring length is 200 meters using 0.5-mm<sup>2</sup> wires, EOL mode wiring is highly recommended.

Note: 'Zone' and 'Sector' are interchangeable terms in this manual.

An EOL zone will report Tamper alarm in case of zone shorting (if it has been EOL programmed). For connecting N.O. zones, programming is required, refer to address 042. Do not connect few sensors to one zone in EOL mode.

## 2.4 AV-816 Expander AV-4016, AV-208 for AV-4009

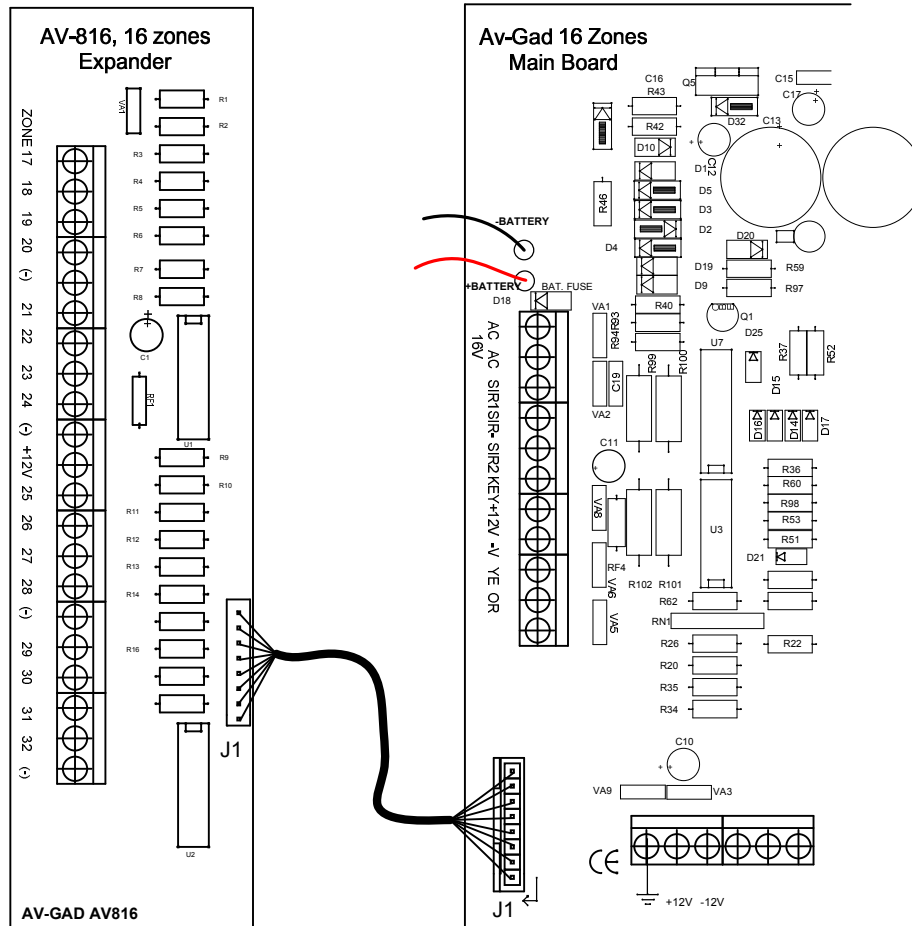


Figure 2.5: Sixteen Zone AV-816 Expander Wiring

### Mounting

Place the AV-816 board on the left side of the AV-4016 board as the drawing shows. Use two screws to tighten the AV-816.

The AV-208 fits the AV-4009 Dublo, locate the board in the left side of the board, refer to the wiring diagram (last section in the manual).

### Connection

Make sure power and battery are disconnected.

Plug the wires connector of AV-816 to J1 socket at the AV-2016, refer to figure 2.5 drawing.

## 2.5 Keypad Wiring

Up to five AV-706 or AV-707 Keypads can be connected to series 4000 Control Panels. When few keypads are connected, wire each one directly to the panel, not from one keypad to the other. Refer to drawing in next page.

When using few keypads connect them in parallel. Each keypad has four terminal wires:

- (+) Power, connect to + Aux. Power
- (-) Power, connect to - Aux. Power
- System Data, connect to OR
- System Strobe, connect to YE

**Easy Tip**

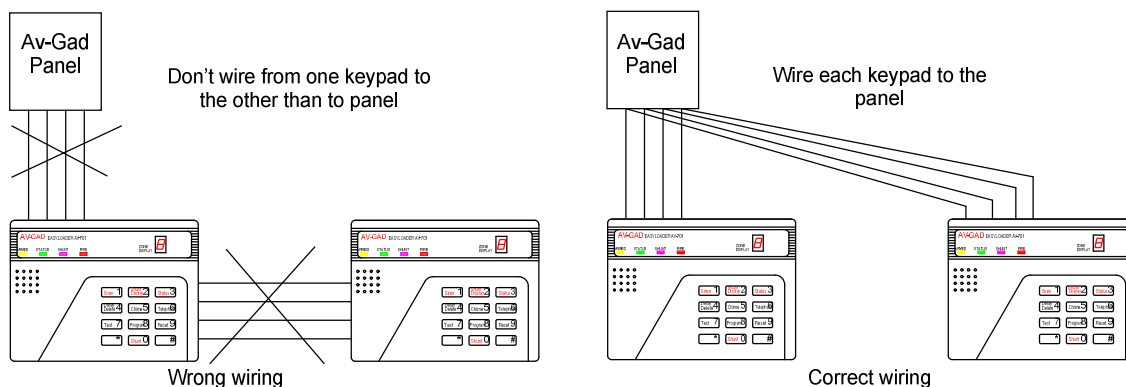


Figure 2.5: Wiring more than one keypad

Wire length for each Keypad should not exceed 100 meters (when using 0.5 mm<sup>2</sup> wires).

For longer than 100 meters keypad wiring, contact manufacturer's consultant.

For AV-706/707TP (keypad with tamper) run five (5) wires. Connect the TMP terminal to a 24H or Tamper zone.

Power at Keypad should be a minimum of 11.5 Volts.

**IMPORTANT! Never run Keypad wires alongside telephone wires, high voltage wires, or transmitting antennae. Wire the keypad wires separately and not in same cable with other devices (telephone, PIR etc.)**

For proper connection, refer to wiring diagrams at the end of the manual.

**Easy Tip**

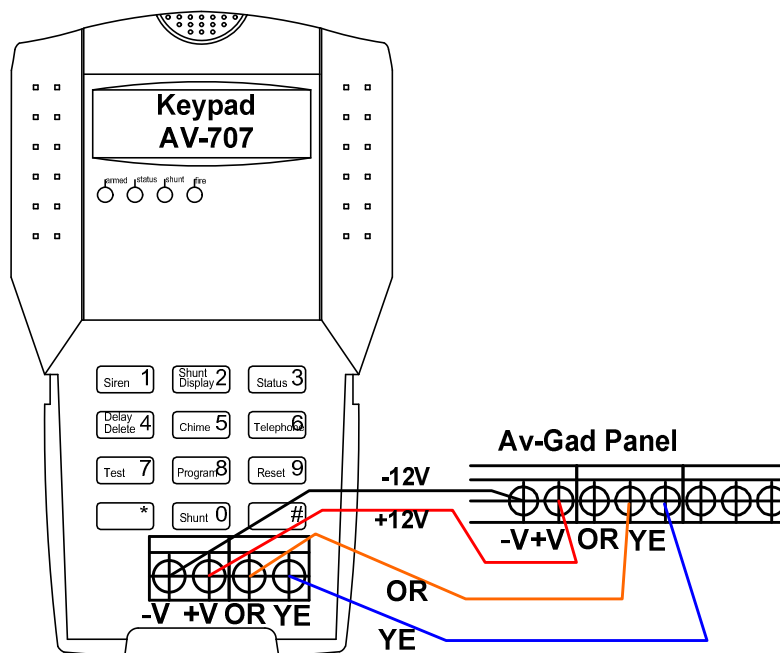


Figure 2.6: Wiring keypad to control panel

## 2.6 Siren Wiring

The control panels (AV-4009, AV-4016) contains dual siren outputs, each protected by Electronic Fuse.

It's highly recommended to use Av-Gad Bella Sirens to prevent inference and problems caused by unknown sirens.

Siren should be outdoor type with a 12V DC, 0.7A or optional (requires programming) speaker siren with minimum power of 15W, 8 Ohms Impedance. If two sirens wired as internal and external consider the maximum current for both not to exceed 1 ampere. Enclose the siren in a metal housing, with anti-tamper switch protection.

**Warning, siren/s current should not exceed 1.0 Ampere**

Bell mode is factory default; in Bell mode install a 12V DC siren, which contains sound driver or electronic modules.

The alarm issued by the siren differs according to the type of zone.

Bell Mode' converts Siren outputs into 13.6V DC outputs (no sound is issued).

Bell mode is applicable for driving self-powered sirens or bells, or combined sirens and strobes.

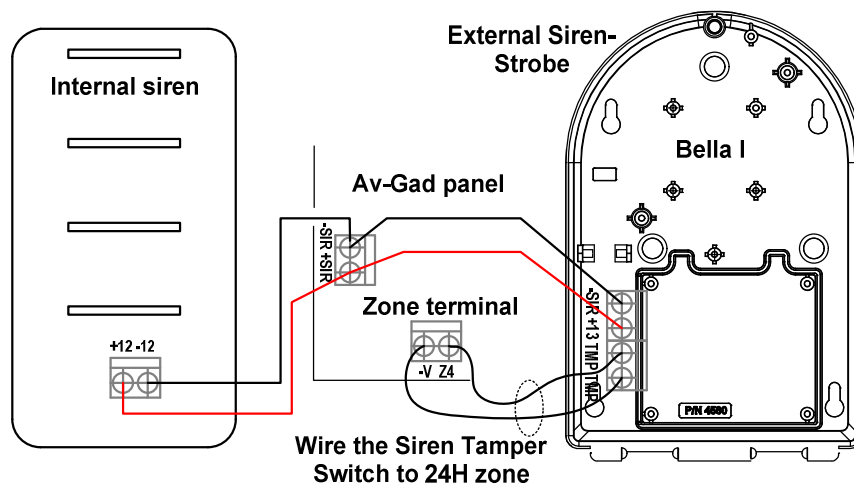


Figure 2.7: Wiring sirens to control panel

Output of 13.6V DC is issued at Bell mode. It's recommended to use Bella sirens series.

In Bell mode, connect **only** sirens, which contain sound driver or electronic modules.

Self contain Bell mode is programmable. This mode provides connection of Bells or Sirens that requires 13.6V at idle and 0V during alarm.

Contact manufacturer's consultant before connecting higher power loads.

To connect self-contained sirens, Bells, and inner-oscillating sirens, Bella siren series refer to programming table for Bell mode. Bella sirens support internal battery charge and monitor for higher security.

For best security it's recommended to install internal and external siren.

## Siren configuration programming address

Address	Feature	Explanation
068	Siren test/beep upon arming	Sounds a short beep to indicate arming
072	Bell mode	Send 12V DC to drive the siren
073	Self contained siren	Send 12V at idle, drop to zero V at alarm
092	Siren 3 beeps when disarm by key	Sounds 3 short beeps to indicate disarming
070, 071	Siren duration times	Configures the siren times

## 2.7 Remote Indication Terminals - Max. 100 mA

Indication	Application
ON	(-V) on closing (Arming) or if cross-zoning feature selected
A1	(-V) during alarm from the programmed zone
A2	(-V) during alarm from the programmed zone
SLO	(-V) during alarm from the programmed zone
SLO1	(-V) during alarm from the programmed zone

The A1 may be used to drive a low current Strobe Light (Xenon) that consumes up to 100 mA. **Do not connect** plain relays, sirens or similar loads to the outputs.

Home Automation feature: Momentary activation of A1 output for three seconds, via any DTMF telephone command (address 074-2). See drawing sample.  
In case other features are selected for the same output, this feature is not applicable.

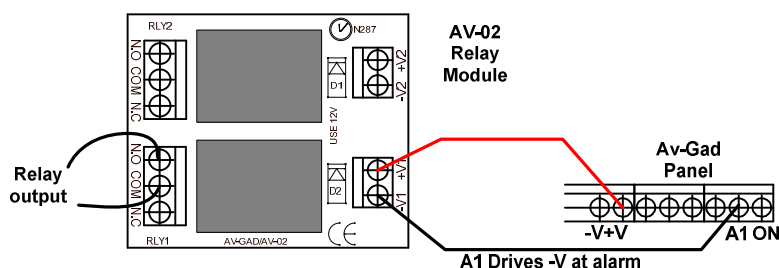


Figure 2.8: Wiring remote indication output to protected relay

## 2.8 Wiring smoke detector

The alarm panel supports smoke detectors that powered by 12V and better include a relay output. After alarm the smoke requires reset, done b power cut, add a AV-01 relay as drawing shows. Program the zone as fire, set the output as smoke reset.

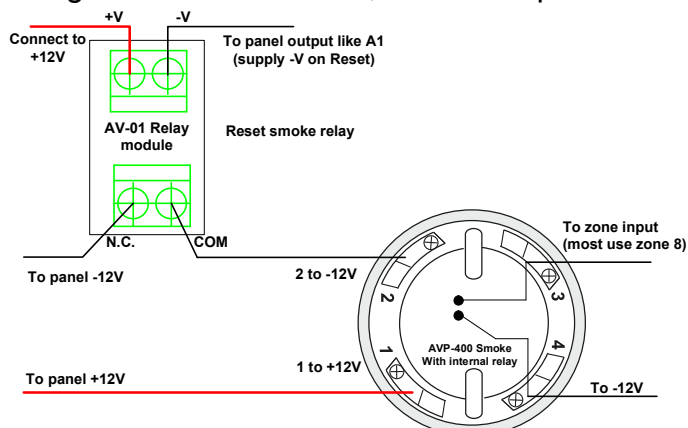


Figure 2.9: Wiring smoke detector

## 2.9 Remote Indications Testing

To test the remote indication outputs without entering to alarm mode; enter to programming mode (hold down 8, enter 1994, followed by #).

Testing ON output, enter 200 than 30 to enable, 200 than 31 to disable

Testing A1 output, enter 200 than 32 to enable, 200 than 33 to disable

To quit programming mode enter 999 than #.

## 2.10 Grounding Wiring & Lightning Protection

The control panel must be earth grounded for lightning protection to work effectively, and in order to prevent RFI and EMI interferences. Connect the ground to a verified cold-water pipe using a minimum 16 AWG (or larger) wire. Run the wire via the shortest possible route.

### **System grounding is compulsory**

**Note: Connect the Ground wire, to the  $\underline{\underline{\text{—}}}$  terminal. This is not a minus (-V). Be careful of static discharge; before handling the main board touch a grounded metal surface to discharge.**

Before grounding the system, make sure to connect ground properly, check that ground does not transfer high voltages.

**In tropical areas order the Surgo protection module or specific models to fit.**

## 2.11 Back-Up Battery

Make sure to connect the Battery in the correct polarity!

The system's Red wire is the positive pole (+) and the Black wire is the negative pole (-).

- The battery will provide power back up in case of AC power failure.
- Connect back-up battery to ensure proper operation of the system.
- Recommended battery: 7 Amperes per Hour (AH), 12V (sealed lead acid) type.
- Battery type 7 A/H backs up control panel and a single keypad for about 8 hours.
- Series 4000 panels accommodates a battery of up to 12V – 9 A/H (max.).
- An Electronic Fuse rated at 2.5A protects the battery.
- Add a power supply for installation with over three LED keypad and/or if over ten high current sensors included. Refer to AV-21, AV-40 power supply and charger.

## 2.12 AC or DC Power Supply

Each alarm panel requires AC 16V source (older 5003TER or 5005TER none polarity devices) or DC 17V by new 5017TER. For solar panel (SL-2032) applications contact us.

When using DC sources make sure to connect the power in the correct polarity! When solar panels removed connect other power source like 5017TER. Don't use higher voltage power source.

When using 5017TER or SL2032 the (+) connect to the upper AC wires terminal and the (-) to the lower AC marked terminal.

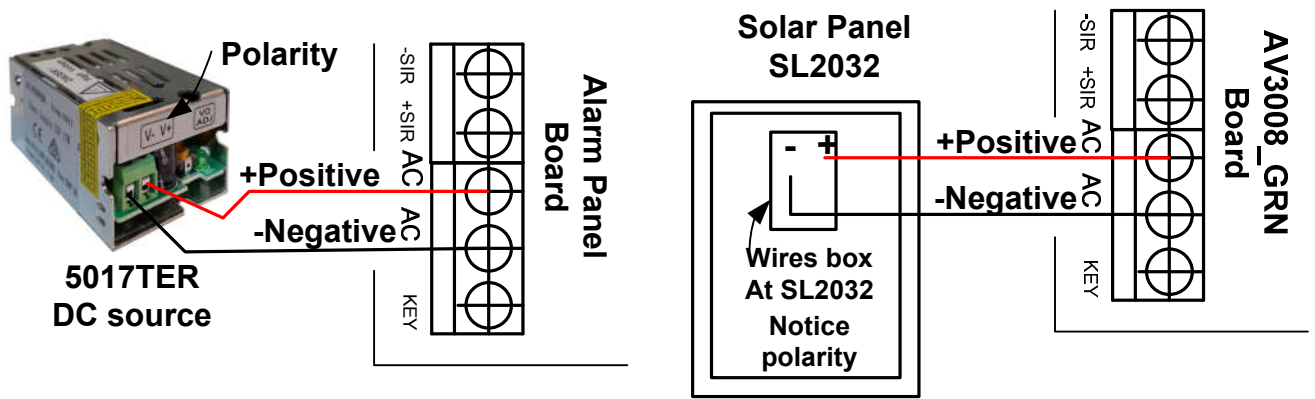


Figure 2.10: Wiring power supply and solar panel

### 3. TELEPHONE LINE AND CENTRAL STATION

#### 3.1 Telephone Line & GSM Wiring

Dialing sequence: 1<sup>st</sup> dials to central stations, 2<sup>nd</sup> send SMS, 3<sup>rd</sup> dials to standard phones (wired or mobile). If central station not programmed sequence is bypass.

It's recommended to connect the control panel to an independent telephone line, if a device is in parallel with the alarm panel, this may grab the call first (like a message answer/fax) during remote up and download and remote DTMF. Don't connect fax or answering machine in parallel on the same telephone line.

In AV-4009/4016 GSM if phone numbers programmed system dials them via PSTN, send SMS via GSM. Dialing via central phone system (PBX), enter 9 (get line) hold down 0 (pause) that the number.

Default dialing mode is DTMF. At areas with low quality-noisy lines; PSTN Pulse Dial (old dialing format) is optional, at Pulse Dial mode the default is European Make/Break rate of 40/60 milliseconds (in Pulse dialing). Australia: Austel PSTN line is optional.

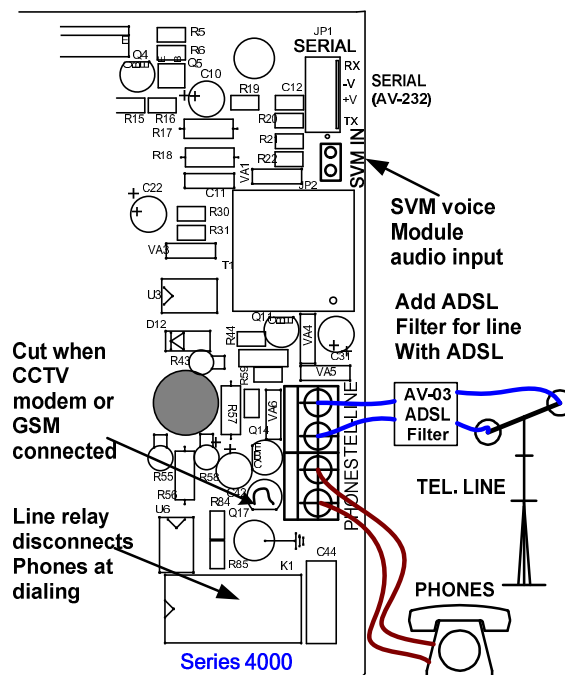


Figure 3.1: Wiring Telephone (PSTN) Line

Dialing mode is programmable (refer to programming sheet addresses 084).

Connect the telephone line to 'TEL-LINE' terminal, if handsets connected to same line connect them to 'PHONES', when system attempts to dial the 'PHONES' is disconnected.

Do not connect to ISDN or other digital telephone system. Most ISDN converters contain an Analog line; connect the Analog line of the ISDN to the panel TEL-LINE terminal.

If the PSTN is DSL/ADSL type connect a dedicated line filter supplied by local Telecom Company, or Av-Gad AV03 high end ADSL filter.

If GSM module is required: Use high end unit like AVG-13, AVG-16. Cut the jumper at the PCB, located at the right-lower side of the PCB, see drawing at wiring diagram.

Consider that low quality GSM module cause great problems like wrong dialing, RF interferences, wrong reporting to central station and disables the DTMF remote control feature.

### **3.2 SVM – Synthesized Voice Module (SVM-40 and SVM-42)**

The SVM-42 (latest model) and SVM-40 are Synthesized Voice Modules. The SVM is an optional item (not supplied with the panel). The SVM allows the recording and playback of two messages, with optional playback through an external speaker (not included) or via the phone during alarm. The SVM is a high technology device, electronically stores messages with or without power.

SVM-42 message duration is 40 seconds in total, CH1 and CH 2. The SVM contains an on board microphone. For interfacing the SVM to your panel refer to the SVM manual.

AV-4000 GSM panels are not compatible with SVM-40 or SVM-42.

The SVM is a digital message source in Series 4000 Alarm Control Panels, telephone dialers or in other applications. The SVM supplied audio is capable to drive audio amplifier, message center, automatic dialer or other device.

When connected to series 4000 program the SVM to be activated per zone, refer to the zone features section address 268, 272.

The ON output will trig channel 1 of the SVM and A1 output will trig channel 2. In panels AV-4009, 4016 output A2 also can be used, refer to address 127.

For setting the message length refer to address 043, 044 recommended value 20. Set 042=00 for voice without siren sound before.

Follow the wiring procedures (included in SVM manual) simulate alarm (long 6 than long 7); the panel will dial first the central station telephone numbers, then dial to other programmed numbers.

After dialing, the panel will trig the SVM to send the recorded message.

### **3.3 Answering Machine Bypass**

For remote up and download, and DTMF remote control you need to call up the alarm panel.

In case the alarm panel connected with fax or answering machine on the same telephone line (not recommended) enable the Answering Machine Bypass or Answer Now features (otherwise connection is impossible).

To enable the feature:

1. Program 1 at address 059
2. Program at least 24 seconds at address 057 (Ring Time Out)

To proceed: Dial to the control panel, count at least three rings and disconnect, dial again after 10 seconds – the panel will answer at first ring.



When Answering Machine Bypass enabled, the control panel will answer at first ring if:

- There was a pause of at least 10 seconds from last ring
- The panel already counted at least three rings before the pause
- Number of rings to answer (at address 091) is less than 20

Notice: The panel will answer (in a normal mode) if there is no pause and the rings counted exceed (or equal) the number programmed at 091.

### **3.4 Telephone Line Test**

Series 4000 includes Telephone Line Monitor, refer to address 094: Time interval between telephone line tests - in hours. Range between 00-24. When '00' programmed no test performed. Failure to get a dial tone when dialing will cause a "Phone Line Fault" event.

In case you need an external telephone monitor order item: TLS (Tele-Spy).

### **3.5 Contact ID Format**

All of series 4000 panels are able to send report for two separate central stations, address 017,018.

The GSM models are not reporting to central station by now (under process).

For Central Station (CS) reporting two telephone numbers are available, Tel. 2 (address 019) is main central station Tel. Number and Tel. 3 (address 020) is for 2<sup>nd</sup> central station reporting, or as backup to the same CS.

Contact ID Format (known also as Ademco Express) is the fastest to program and easiest to use communicator format for central station, with communication speed achieved by the DTMF signaling.

When using Contact ID format, program only Central Station telephone numbers and the subscriber ID; all reports will be automatically transmitted, with no need to program anything else.

Step by step:

1. Address 019, 020 enter the central station (CS) telephone numbers
2. Address 030, 031 program 2 (set by default)
3. Address 021, 025 program the subscriber number, the CS will provide the ID, keep always four digits
4. Address 034 determines the opening/closing report status

### **3.6 ID Codes for Communicator**

Not available

### **3.7 Remote Up and Download**

#### **EasyLoad Introduction**

The remote up and download feature enables fast and simple programming of EasyLoader panels. Programming tables, codes and other features may be up & downloaded from an on-site PC (DOS or Windows Mode) via telephone using Modem and 'EasyLoad' software, which is supplied separately on a diskette. The control panel contains a full-duplex modem that conforms to BELL 103 standard.

## Installing EasyLoad on your Computer

The installation program will guide you, and will install EasyLoad automatically by making a new directory called AVGAD, or one of your choices. The README 1st file supplied with EasyLoad will help you operate the up and download program.

DOS old version: To start your EasyLoad: At the prompter 'C:\AVGAD' type 'ESAV'; you will be notified that some files are missing (the database). Answer 'Yes' to create them.

The main EasyLoad menu contains seven selectable fields, to enter main menus use the arrows (right part of computer keypad) or by entering the field number. Using a mouse is highly recommended.

**Easy Tip**

**The control panel modem is set by default to answer the PC after 10 rings - see address 054. Hold down key 6 then hold-down key 1 for 'Answer Now' mode. In address 091 enter 10 or higher (21 to 99 rings) in order to disable panel modem.**

## Configuring your Modem

First, verify that your modem is Bell 103, refer to manufacture data sheet.

Configure your modem port using the SET-UP entry from the main menu (field 7). Specify the COM PORT, on which your modem is installed, making sure your mouse is not on the same COM PORT. Do not use COM1 and COM3 or COM2 and COM4 simultaneously. If you cannot initialize modem, use the Auto Detect option. Av-Gad supplies the proper mode, and inverter for USB computers.

The PC keyboard can also be used, e.g. Move from field to field using arrows (when possible), the TAB key (forward), shift + TAB (backward), ALT key + highlighted letter. Confirm input in text fields by hitting the ENTER (return) key. In order to select the required field; hit the highlighted digit or letter.

Full instructions and latest features are enclosed in the EasyLoad software diskette.

Check the latest Windows EasyLoad.

## Local Up and Download via PC (AV-232 adapter required)

Series 4000 alarm panels provides local up and download via RS-232 and modem.

When using the AV-232 interface (special RS-232 cable and interface connecting the PC to the panel) set the panel to programming mode, 'P' is displayed; type 77 at address 200 (i.e. type 20077) before attempting to establish connection.

When using the AV-232 the transfer rate is 8 times faster than through the modem. With local PC, use the same procedures as described below. Maximum AV-232 length is five meters. If your computer is using USB as serial interface order the RS-232 to USB adapter, item AVUSB232.

## 4. REMOTE DTMF AND REMOTE ARMING

### 4.1 Remote Key and Wireless Arming & Disarming. Passive arming

The AV-4009 AV-4016 enables Arming and Disarming by remote momentary key-switch, which is connected to 'KEY' and '- Aux. Power (Refer to Wiring Diagram). Cable set for connecting to JP1 requires separately ordered.

When using remote key-switch, wire length should not exceed 10 meters.

A Momentary pulse (momentary trig) between 'KEY' terminals will Arm and Disarm the control panel (close the 'instant' and '24H' zones Prior to arming.)

System reverts to previous status with next momentary pulse. (Refer to Wiring Diagram.)

For Arming/Disarming via Wireless Radio Remote, connect receiver's relay to 'KE' and '- Aux. Power' terminals. Verify the receiver relay mode, momentary, or latch, and set system accordingly.

In most cases the Key terminal is applicable for emergency Disarming – Short the key terminal to -V. For remote arming with wireless remote transmitter use the AVS22 RF set remote.

Zone 8 or 16 ("last" zone) may function (requires programming) as auxiliary remote key input, programmable at address 089.

The Aux. key Arms without Home (group) mode, sounds siren beep when Arming (if programmed), sounds siren beeps when Disarming (if programmed).

#### **4.2 Passive Arming**

Description: In case user want the system to be self armed if for certain time in the protected area sensors not detected movement.

Passive arming if activated if all zones are close for and was active for a programmable time (time without movement).

Time wait before arming is programmed at address 098. Time without movement 05 to 99 minutes, 00 = No passive arming

#### **4.3 Remote Access via DTMF**

##### **General Description**

Program address 109 to enable DTMF remote control.

Verify that your PSTN line support DTMF dialing, other important issue is that PSTN line is at good condition. Adding GSM module or low quality ADSL filter may interfere DTMF commands.

DTMF commands are available when the panel call your phone, or by calling the panel.

The DTMF remote control functions:

- ➔ Check the status of the control panel (Armed/Disarm, Alarm in progress)
- ➔ Arm or disarm the control panel
- ➔ Bypass zones or clear all bypassed zones
- ➔ Stop the dialer report during alarm
- ➔ Momentary activate A1 (alarm) output for three seconds
- ➔ Momentary activate SOL output for five seconds
- ➔ First Alarm indication - by a number of beeps per zone, special tune for Panic alarm

The same options are available when a call is received from the control panel during an alarm condition.

##### **Keypad online confirmation and DTMF functions history**

When the control panel detects the first DTMF key, five short beeps sound at the keypads. The keypad activation shows the user at the remote site that a DTMF connection takes place (in case of mistaken connection or similar).

During the remote access the keypad display DTMF status and all LEDs blink fast from time to time.

When the call ends, the three short beeps sound at the keypads. When the user code is in process, the keypad display shows a line for each code number entry (disclose the code), then each DTMF number pressed show the received number.

History log: Each call, confirmed by a valid user code, is recorded in the events history. Each "Arming/Disarming" is recorded in the events history.

**Notes:** 1. **The keypad buzzer or other loud sounds may jam your DTMF entries, in case the keypad is close to your DTMF telephone, during testing disable the buzzer.**  
2. **When entering the DTMF commands wait for "quiet" period, if entering commands during the system confirmation tunes, or other tunes the panel may miss the DTMF entries.**

### **The panel calls the user during alarm**

When the control panel calls the user during alarm, it will first generate the siren sound for about 30 seconds (to shorten this feature at address 045 "Tel. Mi. call Time", to 30, as default is 60 seconds). The siren sound will stop ten (10) seconds before the end of the call and a greeting tune will be sounded, after the greeting tune enter your code followed by #. To stop the dialer enter 6#, to get panel status enter 7#, to disarm the panel enter 2#. Press 9# to end the process. To arm the system press 1 #

The control panel will answer the call after the number of rings programmed at address 054 (or following the "bypass answering machine" procedure).

#### **4.4 DTMF Commands**

Each command must be followed by the '#' key (Enter) in the remote phone. The control panel waits 4 seconds between the keys typed. When this time expires, previous keys input will be discarded.

The key '\*' cancels previous input. It's recommended to start with "learn" function [8X #] to identify the various confirmation tune.

The commands:

[0 XX #] - **Bypass zone** (# is the Enter key), XX is Bypassed zone 01 to 32

To clear all bypassed zone: 099 #

The zone bypass command is valid only when the system is in Disarm mode, not valid in Alarm mode.

[1 #] - **Arm control panel.** The control panel will be armed even with open zones. After the arming, a confirmation tune followed by an "armed" tune will be sounded ("Armed" tune: Short beep followed by a long tone).

The user can wait a few seconds to be sure that no alarm has been caused by open zones. In this case, an Alarm tune (siren sound) will be sounded.

[2 #] - **Disarm control panel.** The control panel will be disarmed. A confirmation tune followed by a "disarmed" tune will be sounded ("Disarmed" tune: Five short beeps).

[31 #] - **Activates A1** output for 4 seconds (enabled by programming 122)

[33 #] - **Activates SLO** output for 3 seconds (enabled by programming 133)

[50 #] - **Deactivates A2** output to stop Listen In (enabled by programming 128)

[51 #] - **Activates A2** output for Listen In (enabled by programming 128)

[6 #] - **Stop dialer.** The dialer will stop calling the programmed telephone numbers. This will affect only the current dialing process. A new alarm will re-start the dialer.

Note that if the user answered a call from the panel or called the panel during a dialing period without Arming/Disarming/Stopping the dialer, the dialer will restart the cycle from the beginning.

[7 #] - **Check control panel status.** The control panel will answer with an Armed or Disarmed tune followed by an Alarm tune if it is in an alarm condition.

[8X #] - **Learn function.** Using this command, the user can become familiar with the various sounds used by the control panel in the remote access procedure. Further details find in the dedicated paragraph. (X - The required sound).

[9 #] - **End call.** The control panel will sound a confirmation tune and will hang up.

## 5. SYSTEM CODES

### 5.1 Description of main codes (32 codes)

Up to thirty two (32) different Arm/Disarm codes and one installer (dealer) code are available; each code consists of 1 to 6 digits.

Do not use '0' as the first digit in a code.

Do not use '5' as first digit in a code number if *Instant Arming via key 5* was programmed.

User code must not start with the same numbers as the installer programming code (1994).


Do not use same codes or same first 3 digits for different codes. For example if user code No .1 is 123, other user code cannot be 1234.

1. **Default Arming and Disarming Code '1 2 3 4'** (Code No. 1) - Use '1234' as Arming Code (also called Owner Code). Use code No. 1 to program a new user code. Upon setting new Arming & Disarming code, default user code '1234' automatically replaced.
2. **Code number 7 for access control** (requires programming) - Arm/Disarm code No. 7 activates the ON output, which is used for such functions as opening an electric lock.  
Code number seven (7) is operative during ARM and DISARMS modes, confirmed by seven short beeps. Code 7 drives the ON output as 'Momentary' output. Pulse duration is 5 seconds.
3. **Code number 33 programming Code (Installer Code)** - Code No. 33 enables entering into programming mode (system features programming) at the Installer level.  
The factory default programming code is '1 9 9 4.'  
The programming code may be installer-programmed. Installer code does not Arm or Disarm system. See 5.3 for setting new programming code.
4. **User Codes** - (Arming and Disarming code). Each code consists of 1 to 6 digits. System provides eight user programmable codes.
5. **Key Visual Feedback** - Visual 'feedback' from the keypad display upon entering of code. This feature indicates the code entry progress and is most practical when the keypad buzzer is disabled at Group Bypass mode, or if selected by programming. Code entry by user or installer is confirmed at keypad display. Display segments will light up clockwise, indicating the sequence of the digits entered.

**Typing five erroneous codes will lock the keypad keys for 60 seconds**

### 5.2 Enter user programming & Set New User Code

In user programming mode user is able to: Set clock, set SMS and dialer number (not CS numbers), and change user codes 01 to 32.


1. Hold down key 
2. While the four LEDs are blinking, enter code No. 1 (factory default 1 2 3 4)
3. If code is valid, u (small U) is displayed
4. The 2 left-most LEDs blink to indicate that the system is waiting for a new user code index (user 01 to 32) to be entered
5. Enter the code index from 01 to 32 (01 for code No. 1; 02 for code No. 2, etc.)
6. The 3 right-most LEDs blink to indicate that the system is waiting for a new code (from 1 to 6 digits) to be entered. **The code is voided if user code not entered.**
7. Enter the new code; new code and user index 'u' is displayed for confirmation. If during 60 seconds data not entered system automatically escape from code setting.
8. To quit code setting hold down key 9.

### 5.3 SMS and dialer number entry by user


For SMS number: Hold down "6" then hold down "1" (SMS No. 1), enter the number, same for SMS numbers 2, 3, 4.


For telephone numbers: Hold down "6" then hold down "5" (Telephone No. 1), enter the number, same for telephone numbers 2, 3, 4.

### 5.4 Installer Programming mode & Code change

1. Hold down key , while the four LEDs are blinking, enter 1994 (default code) "P" displayed, 2 left-most LEDs blinking.
2. While system is in installer program mode
3. Enter 099, u displayed, press 33 than the new code, U (big U) displayed to confirm
4. New code displayed for conformation. System reverts to Installer Programming mode.
5. Hold down key 9 to exit

### 5.5 Delete a User Code

1. Hold down key 
2. While four LEDs are blinking, enter code No. 1 (default 1 2 3 4)
3. To erase an existing code: Enter user index number (01, 02, 03....), Hold Down simultaneously the '\*' and '#' keys, followed by #, E (erased) will be displayed. The Master (code number 01) cannot be erased.

Instant Arming by key number  is a programmable feature, which may cause erroneous Arming. It is recommended to *disable this feature*. Do not use 5 or 0 as the 1st digit of the code

### 5.6 Auto Arming & Passive Auto Arming

**Programming the time for Automatic Arming (in user programming mode):**

Enter to **user** programming mode. Hold down '8' ('A' is displayed), than 1234.

Setting systems clock when Auto Arming enabled: Hold down key 1 and enter the time in 24H format. Hold down key 1 to display the system clock.

To set Auto Arming Time: Hold down key 8 and enter the time in 24H format. Hold down key 8 to display the system clock. To display, hold down '8' and wait. To disable Automatic Arming program 0000.

If Automatic Arming was programmed, the system time can be set only via User Programming Mode: Address 40 hhmm - Set system time, 41 hhmm - set auto arming time.

Automatic Arming will operate even if the control panel is currently in alarm.

When the Automatic Arming programmed time arrives; the system starts at a 30-second countdown. An 'A' is intermittently displayed and beeps are sounded at the keypad.

During the countdown period, to abort Automatic Arming entering a valid user code (not code No. 7, if used to 'open' a door). If Auto Arming selected and Group Bypass, consider Group 2 is bypassed at auto arming.

Passive auto Arming is activated if all zone been close for XX (05 to 99 minutes), the XX time is programmable at address 098.

## 5.7 Restore default codes

Restore default codes feature requires programming at 106. Disabling the feature prevents codes restore.

To restore the factory default codes; Power down than Power up by applying AC, immediately (during 20 seconds) hold-down keys  Press both together  after 2<sup>nd</sup> beep, release keys, 'U' displayed three times in confirmation.

After proceed the restore: User code = 1234, installer code = 1994, all other codes removed.

To set codes to factory default during programming; in address, 200 enter 05, all codes will restore to default.

## 6. LCD KEYPAD

For full description of the LCD keypad installation, text editing and more details refer to the keypad manual.

## 6.1 Hold-Down Functions

- Holding down the key for approximately 2 seconds accesses hold-down functions
- Hold down functions are confirmed by a long beep

### Hold-Down Functions:

**Siren 1** Key 1 → **SIREN TEST**

**Shunt Display 2** Key 2 → **SHUNT DISPLAY**  
Displays shunted zone(s).

**Status 3** Key 3 → **STATUS DISPLAY**  
Displays troubled or malfunctioning zone (s)

**Delay Delete 4** Key 4 → **DELAY DELETE (INSTANT PROTECTION)**  
Cancels Entry delays in zones selected as 'Delayed' zones. All zones become instant. Delay Delete is displayed in confirmation. Instant Protection becomes effective only if System is Armed within 20 seconds following hold-down of key 4.

**Chime 5** Key 5 → **DOOR CHIME**  
Enables Chime when opening zone. Door Chime operates on Chime-programmed zones. Hold-down key 5 enables and disables the function. Chime mode is confirmed by 'c' display on keypad.

**Telephone 6** Key 6 → **DIALER TEST & FOLLOW-ME PROGRAMMING**  
Test is performed in 'DISARMED' mode.

Function	Via AV-706, 707 LCD Keypad
Displays Programmed Follow Me Telephone Number Without Dialing	Hold-down key [6]
Follow Me telephone number programming	Hold-down key [6] then hold-down [6] again
Programmed Telephone number Verification (Display and Dial 4 telephone numbers)	Hold-down [6] then hold-down [7], number not displayed

Display programmed telephone numbers without dialing: Within few seconds, text will appear on the display, followed by the (programmed) 'Follow Me' telephone number. When programming telephone numbers which require an inter-digit delay ('Pause') during dialing; Hold-Down key [0], a momentary Pause will be displayed (Delay duration is 3 seconds).

The 'Follow-Me' number will be displayed, or displayed and dialed, followed by display-and-dial of up to three additional telephone numbers.



Telephone **6**

and

Siren **1**

Address 092 enables 'Answer now' feature, the system answers remote computer after one ring. This feature is important if the control panel programmed not to answer incoming calls (programming of 21 rings or greater at address 091). To enable 'Answer Now' feature program 01 at address 092.

Hold-down key 6 and then key 1, before the computer and modem connect (dial) the control panel. The panel will acknowledge the command with two beeps and display an 'A.' The feature remains active for 5 minutes after entered, enabling to remotely program (from remote computer) the panel.

Other possibility to connect to a system connected on same line with a fax or answering machine is to use the "Answer machine bypass" feature.

Test **7**

#### Key 7 → **FAULT FIND**

- Fault Find enables testing of all detection devices.
- Fault Find mode is accessible only during 15 seconds following System Disarm.
- 24H, Fire or Panic alarm will stop Fault Find mode.
- Hold down key 7.
- Open and close each zone to test the zone regularity. A one-second beep confirms detection of zone opening. Three beeps indicate zone closing.
- Quit Fault Find mode by arming the system.

Program **8**

#### Key 8 → **PROGRAM**

Key 8 accesses 'Program' mode and user code programming (followed by password)

Reset **9**

#### Key 9 → **RESET**. 'Reset' performs the following functions:

1. Cancels last Keypad entry
2. Stops the communication test (triggered by hold-down key 6)
3. Activates output 2 for resetting the Smoke Detector (requires programming)
4. Resets Day Zone Alarm at Keypad
5. Exits Programming mode (features, telephone numbers, etc.).  
To exit programming mode enter 999 than #

## 6.2 Zone bypass & Group Bypass (home mode)

To bypass one or few zone press key 0 that the zone number in tow digits. Example: To bypass zone 2 press 0 than 02.

Group Bypass operates in few ways, commands:

- 0 & hold-down key 1 - Arm with group 1 bypass, or 0+0 - Group 1 Bypass
- 0 & hold-down key 2 - Arm with group 2 bypass, or 0+0+0 - Group 2 Bypass
- 0 & hold-down key 0 - Arm with group 1+2 bypass, or 0+88 - Group 1+2 Bypass

Each command works as a toggle SET/CLEAR.

The AV-707B provides arming and group bypass by pressing one key (refer to keypad manual).

Shunt **0**

and

Shunt **0**


. Press key '0' twice for Group Bypass. Operative only if system is armed within 20 seconds after entry of this feature. Yellow LED will flash; 'h' (Home) will be displayed for 1 second in confirmation.




To activate Group Bypass II press key '0' three times. To activate both group bypass groups, press 0 then 88.

When Group Bypass is selected, the buzzer and LEDs react as follows:

- The Shunt LED stops blinking 8 seconds after Arming, (prevents LED light from disturbing sleepers near the keypad)
- There is no exit/entry delay-warning buzzer, and keys beep at the keypad.
- No 'beeps' at the keypad until an alarm occurs, or until Group Bypass is canceled.
- When the keypads LEDs are turned off after Arming (requires programming), touching the keypad will turn them on for 5 seconds.

### 6.3 Key Zero Hold-Down functions

1.  Key 0 **Concise Alarm History**: Hold down key '0' to display the last alarm sequence.

2.  and  **Detailed Events History (requires programming)**: Hold down key '0' and again hold down key '0' to display up to 36 events, including: System opening and closing by user number, opening or closing time, alarming zone and AC fail. By holding-down key  twice, 3 LEDs start blinking, to indicate a special operation mode. The events are displayed from the most recent event to the oldest.

3. To silent local keypad buzzer hold down key "0" and #, to activate the buzzer repeat the 0 and #.

Event	AV-707, 706 display
Time set	xx Time Set
Date set	xx Date Set
Installer programming	xx Installer Prg
User programming	xx User Program
Factory defaults	xx Fctry. Default
Communication (to CS) failure	xx Comm. Failure
Panic from Panic zone	xx PANIC
Keypad locked (code error)	xx Keypad Locked
Low Battery	xx Low Battery

Table 1: Events as displayed at series 4000

## 6.4 LCD Dual Keys Functions

Hold down means hold the key for about 2 seconds and as buzzer start release the key.

1 <sup>st</sup> key hold down	2 <sup>nd</sup> key hold down	Function	Note
Shunt 0	Shunt 0	Display alarm and events history	Press # for next, hold down 2 for previous event
Shunt 0	Siren 1	Set system clock in 24H format	Like 23:10
Shunt 0	Shunt Display 2	Set system date	DD-MM-YY. Like 01-02-15
Shunt 0	Delay Delete 4	Display last alarmed zones	
Shunt 0	None	Display last alarm	One alarm only
Telephone 6	Delay Delete 4	Send events history by SMS	
Telephone 6	Chime 5	Test SMS reporting	
Telephone 6	Telephone 6	Program the Follow Me telephone. Tel 1, location 013	
Telephone 6	Test 7	Test dialer	
Telephone 6	Program 8	Test communicator (reporting to central station)	

SMS in this table refers to SMS via PSTN.

## 6.5 Keypad Functions at location 200

Default means "Factory default".

In programming mode enter 200, than the required function as detailed below.

Location	Function
200 and #	Display control panel type & software version
200 and 04	Erase (reset) the events history
200 and 05	Restore all codes to factory default
200 and 08	Set all zones to none EOL (cancels double zones)
200 and 10 (SMS)	Not available
200 and 11 (SMS)	Not available
200 and 12	Not available
200 and 15	Display GSM add on model
200 and 16	Set Gismo M95 GSM A95
200 and 20	Display current SMS language. En for English
200 and 21	Set English as the SMS language
200 and 22	Set Hebrew as the SMS language
200 and 30	Activate ON output (until disabled)
200 and 31	Deactivate ON output
200 and 32	Activate A1 output (until disabled)
200 and 33	Deactivate A1 output
200 and 34	Activate A2 output (until disabled)
200 and 35	Deactivate A2 output

200 and 36	Activate SLO output (until disabled) AV-4009, 4016
200 and 37	Deactivate SLO output
200 and 38	Activate SLO1 output (until disabled) AV-4009, 4016
200 and 39	Deactivate SLO1 output
200 and 44	Set panel to four (4) zones Mode (AV-4044)
200 and 48	Set panel to eight (8) zones Mode (AV-4044)
200 and 50 (Dial)	Displays current settings LInE or CELL to dial on alarm
200 and 51	Set PSTN line for dialing
200 and 52	Set GSM line for dialing
200 and 69	Restore program to default
200 and 70	Restore texts to defaults
200 and 71	Upload all texts to keypads
200 and 72	Download zone description & logo only
200 and 77	Set panel to PC Communicate Mode with AV-232 cable
200 and 78	Arm panel from programming mode

### Browsing through Events History

When starting History Events mode the events are displayed from beginning to end without any break, until any browsing key is pressed.

**During History Events, browsing system will respond only to alarm or panic, Arming denied.**  
**Alarm or Panic during History Event mode will quit this mode and system will set to Use Mode (normal operation mode).**

For easier detailed alarm history, use the downloaded from panel to remote computer. History queue log of up to 250 events are displayed, only 99 at panel keypad and in the *EasyLoad* PC software.

4. Shunt 0 and Siren 1 **Display and Setting of System Time:** Hold down key '0' and then hold-down key '1,' 3 LEDs will blink. Wait for the display of system time in 4-digit format.

To set new time, hold down key '0' and then hold down key '1.' Do not wait for time display; enter the new time in 24-hour format. The local clock time is not stored in system memory; clock must be adjusted after power-up. After powering-up system, time is reset to 00:00, 'h' will be displayed to remind user to set time; 'h' will disappear after setting the time. If Auto-Arming enabled the clock setting is from user Programming mode only, refer to Auto-Arming section.

5. Shunt 0 and Shunt Display 2 **Display and Setting of System Date:** Hold down key '0' and then hold-down key '2'; 3 LEDs will blink. Enter date: 'dd mm yy.' The up and download PC software displays time and date, along with event history.

The local date is stored in system memory; adjust date after long power-fail.

Years 00 through 77 translated as 2000 to 2077

6. Shunt 0 and Status 3 **Concise History of Tampered Zones:** Hold down key '0' and then hold down key '3' to display the Tampered zone alarm sequence.

New alarm will create a new history event instead of old one.

7. **Shunt 0** and **Delay Delete 4** **Display Events Memory (history)**; only alarm events

8. **Shunt 0** Press (not hold-down) and press **Reset 9** (hold-down or 99), will display ‘-’ to cancel all Bypassed Zones.

**\* Keypad Panic #** Keys → **PANIC BUTTON**

Holding down \* and # keys will trigger Panic alarm. H will be displayed (zone ‘H’).

**To cancel *Hold-Down* function accessed by keys [0], [6] and [7]; Hold-Down key 9 (Reset). To quit zero hold-down functions, hold-down ‘9**

### 6.6 Keypad Sounder

The Keypad sounder (buzzer) enhances the use of system operation and serves as a local alarm device (requires programming).

The sounder emits sounds in the following instances:

OPERATION	SOUNDER RESPONSE
◆ Pressing of any key	Short confirmation beep
◆ Power up	Six beeps
◆ Hold-down functions	Long confirmation beep
◆ Faulty programming input	Long beep (+ ‘E’ display)
◆ Delayed Zone triggering	Three long beeps
◆ Exit delay starting (if programmed)	Warning beeps until the delay is over
◆ Completion of Arm/Disarm programming code	One long confirmation beep
◆ Programming Telephone numbers	Two confirmation beeps
◆ Completion of address programming	Two confirmation beeps
◆ Pressing ‘Code 7’ for driving door opening	Seven confirmation beeps
◆ Arming of System with Instant, Fire or 24H troubled zones	Five warning beeps + troubled zone display
◆ Feature programming	Two confirmation beeps
◆ Follow-Me number programming	Two confirmation beeps
◆ During alarm (requires programming)	Intermittent beep until alarm reset

When the buzzer is ON, it will sound while the keys "0" and "#" are being held down.

When the buzzer is OFF, hold down the keys for 2-3 seconds, sounder feedback heard in this case only after releasing the keys.

The buzzer set ON at "Power On" and every time the keypad is in programming mode.

## 6.7 LED Indicators

AV-706, AV-707 Keypads: Four LEDs provide visual indication of system status, as well as confirmation of various modes.

### Keypad LED's indication

<b>Armed LED-Red</b>	<b>AV-4009, AV-4016</b>
<b>Off</b>	System Disarmed
<b>Blink slowly</b>	An alarm is triggered
<b>ON steady</b>	System Armed
<b>Blink fast</b>	Mode does not exist

<b>Status LED-Green</b>	<b>AV-4009, AV-4016</b>
<b>Off</b>	System Disarmed
<b>Blink slowly</b>	Some zones are open
<b>ON steady</b>	All zones OK
<b>Blink fast</b>	Some zones have been tampered

<b>Shunt LED-Orange</b>	<b>AV-4009, AV-4016</b>
<b>ON steady</b>	Some zones are bypassed
<b>Blink slowly</b>	Group bypass entered
<b>Off</b>	8 seconds after Armed

<b>Fire LED-Red</b>	<b>AV-4009, AV-4016</b>
<b>Blink slow</b>	Warning before Fire alarm
<b>Blink fast</b>	During and after Fire alarm

Note: At alarm time Troubled Zones are displayed at the Keypad.

○ **Red ARMED/ALARM Indicator** - Lights up when system is armed, blinks after an alarm is triggered at any zone. Blinking indicates alarm history in memory.

○ **Green STATUS Indicator** - Blinks when zone/s are troubled and remains lit as long as zones are clear, rapid blinking during Tamper alarm.

○ **Yellow SHUNT (Bypass) Indicator** - Lights up upon zone bypass.

(Note: may light automatically upon arming if Auto Bypass was programmed).

The indicator also lights up and blinks if a Group Bypass was entered by pressing '0' twice.

○ **Red FIRE (Trouble) Indicator** - Rapid blinking when a Fire zone is troubled.

○○ **Two LEDs Flashing (Left Most LEDs)** - In user code programming mode, rapid blinking indicates code or code index to be entered. In Installer programming mode, it indicates address entry.

In Disarmed mode, the two left-most LEDs blinking + zone number display indicate 24H-alarm mode.

**○○○ Three LEDs Flashing** - In Disarmed mode, rapid blinking indicates AC power failure. AC power fail event is displayed in Events. In Armed mode, rapid blinking indicates system restored after AC Power Failure mode.

During programming Follow-Me Telephone Number, three flashing LEDs indicate to enter a new telephone number.

**○○○○ Four LEDs Flashing** - Upon holding-down key '8,' the system is ready for code to be entered. (Same LED indication when code is expected for Bypass via code).

## 7. NEW ADDRESS SERIES 4000

### 7.1 Systems parameters address

Enable PC connection/Download via modem" address 113 (default not enabled)

To access the panel via remote PC this parameter must be set. The panel will not accept a connection from a remote PC when it is ARMED or there was an alarm.

When the panel is disarmed, a connection is always possible if the user entered the Answer Now command ("6"+"1"). Using the PC connection one can only ARM the panel, but not disarm it.

It is not possible to cancel the ARM command.

When arming, the user can bypass some zones or set the Home mode. Zones bypassing is possible only if enabled at 111.

Enable DISARM via DTMF remote command address 110 (default not enabled). The panel can be accessed via telephone using DTMF commands when Armed or Disarmed.

The user can disarm the panel using DTMF command only if the option is enabled at address 110

### 7.2 Telephone and SMS address



**EasyLoad: Series 4000 remote modem is not enabled by factory default (security reason). Check address "Enable PC connection/Download via modem".**

Addresses modified:

Communicator Test Hour and minutes 036 def 00:01

Auto Arming Hour and minutes 006 def 00:00

Telephone numbers

There are 13 telephone numbers, 16 digits each.

No limitation on the numbers of pauses in a telephone number. The programmable digits are: 0,1,2,3,4,5,6,7,8,9,\*,# and P for Pause.

Telephone numbers addresses:

008 SMS Service Center – To this number the panel sends the SMS data. In each country the number is different; call your PSTN telephone line provider to find the number.

009 SMS Destination number #1 (used to report events)

010 SMS Destination number #2 (used to report events)

011 SMS Destination number #3 (used to report events)

012 SMS Destination number #4 (used to report events)

(The Destination numbers are not dialed by the panel - they are included in the SMS)

013 Regular Telephone number plus follow me option #1

014 Regular Telephone number #2

015 Regular Telephone number #3

016 Regular Telephone number #4

016 Regular Telephone number #5

016 Regular Telephone number #6

019 Central Station number #1

020 Central Station number #2



### Short Message Service via land telephone line (PSTN)

The panel sends Short Messages (SMS) via the land telephone line. The SMS service must be enabled on the outgoing telephone line connected to the panel. To enable the SMS reporting for the panel the installer must program:

- The SMS Service Center (SMSC) telephone number for Outgoing Messages (in some countries there are two telephone numbers, one for Outgoing messages and one for Incoming messages; in Israel for example the Outgoing telephone number is 14974800 and it is programmed automatically when returning to factory defaults). If required add the "external line access" code.
- Up to four destination telephone numbers. Those numbers will receive the messages sent by the panel. Each number must be programmed "as is" (without "access code") - those numbers are not dialed by the panel - they are part of the SMS message.
- Enable the SMS reporting the installer will program 003 (set as a factory default).

### **7.3 Events reported by the SMS module**

To set SMS language (English or Hebrew) see "200" commands (in LED panels only)

#### SMS Test reporting

-----  
Zone event Burglary Zone number and description (**zone alarm restore not included**)

24 hour zone number and description

Entry/exit Zone number and description

Fire Zone number and description

Panic Zone number and description

Tamper Zone number and description  
-----

Disarm (Open) - by User number

- Via DTMF User number

- Duress (ambush) User number

- Via PC remote

- By Key  
-----

Arm (Close) - by User number

- Via DTMF User number

- Auto arming by timer-

- Via PC remote -

- By Key  
-----

AC Power - Failure

- Restore  
-----

Battery - Low Battery -

- Restore -  
-----

Emergency - Panic

- Medical

- Fire  
-----

## PC remote Access

---

### Communication to Central Station Failure

Each event is time/date stamped (refer to address 007 to enable)

To test the SMS reporting: press/hold "6"+"5"

### More features

#### \* Reporting PC remote access to the central station

If the panel was accessed by a remote PC (via the telephone line) then reports will be sent to the Central station (using CID format only):

- Successful access/download: code 412, user 99
- Arm /Disarm by remote: code 407, user 99.

#### \* PC connection is always recorded in the History log

\* If the PC uploaded programming data to the panel then the history log will show the following events:

xx PC Download Program table

xx PC Download

Telephone numbers

xx PC Download

User Codes

xx PC Download

Zones texts

\* When the entry delay starts (by opening a delayed zone), the panel begins to dial to the regular telephone numbers. In this case, the panel sends a siren sound via the telephone. If an alarm condition starts (the panel was not disarmed), the panel will start the normal reporting cycle:

Report to the Central Station, SMS reports and, finally, alarm reports using siren sound and SVM recorded messages to the regular telephone numbers.

#### \* Central Station test by "6"+"8"

If no telephone/ CS installed, dial test and CS test will give a function error.

#### \* Activation of ON/OFF strobe via the ON output. **\*\* Canceled for new panels series \*\***

Arming: 2s ON, 1s OFF, 2s ON, 1s OFF, 2s ON, OFF

Disarming: 3s ON, 2s OFF, 3s ON, OFF

\* Keypad warning from zones or troubles are "silenced" for 15 seconds after a key enter or a password.

#### \* Alarms only history display - called by "0" + "4"

\* Listen-in function in DTMF mode, using A2 output:

5 + 1 Start

5 + 0 Stop

- Each zone can be programmed to trigger Siren/SVM1/SVM2 alerts to six telephone numbers.

- Siren, SVM1 and SVM2 telephone alert times can be programmed.

- The panel can report to both Central Stations (double report) and only once to the Central Station that is available (one of the Central Station is in this case used as backup in case of failure to contact the other one).

Program Double report to CS at 033

- Central Stations can be programmed to report in using it's own Subscriber ID.

- The communicator to central station has priority over SMS\_reporting and the dialing of Siren/SVM alerts. The communication process will stop the alerts dialing. When it completes, the alerts dialing is resumed from the first telephone number for a complete number of repetitions.

Note that if the dialer is currently set to alert using siren and SVM1 and an input triggers a SVM2 request, then the number of repetitions will be reset and the dialer will dial again adding the new request to the alerts. This means that every time an input requests an alert not yet active, the dialer will re-dial, so no subscriber will miss the event.

DTMF control: At the end of 1<sup>st</sup> Siren/SVM cycle, the user will be prompted to enter a valid code; correct code enables access to the DTMF remote control functions.

#### **7.4 Dialer reporting Programming locations**

Zones to sound Siren via telephone 264, 267 default = 12345678

Zones to activate SVM1 message 268, 271

Zones to activate SVM2 message 272, 275

Siren via telephone time seconds 042 default = 10s

SVM1 via telephone time seconds 043 default = 10s

SVM2 via telephone time seconds 044 default = 10s

SVM1 is activated by the SLO 1 output of the board

SVM2 is activated by the A2 output of the board

"SLO1" output is selected for SVM1 if there is at least one zone programmed at 268-271

"A1" output is selected for SVM2 if there is at least one zone programmed at 272-275

Notice: If listen in enabled SLO1 and A1 are dedicated for listen in.

Note for SVM applications: The alerts are output in cycles siren followed by SVM1 followed by SVM2. The minimum call time is programmed at address 045. Program short times for each alert with reasonable "minimum call time". This way, whoever picks the telephone will have a chance to listen to all alerts. For example:

Siren: 5 seconds

SVM1: 3 seconds (short message)

SVM2: 4 seconds

Total: 12 seconds

## 8. PROGRAMMING SHEET AV-4000 DUBLO VERSION 1.05

Factory Default Program marked with ( ); Blank Square means no default program

### Part 1: TELEPHONES & SMS Subscribers (00 = No, 01 = Yes)

Send SMS	SMS @ Close/Open	Period Test SMS	Max SMS sending	Time stamp SMS	SMS center Tel. No.	← Feature
(00=No, Yes=01)	(00=No)	(00=No)	(Max = 5) 2	(00=No, Yes=01)	1497400	← Default Set
003	004	005	006	007	008	← Address Number

SMS Subsc'r 1	SMS Subsc'r 2	SMS Subsc'r 3	SMS Subsc'r 4	Dialer Telephone 1	Dialer Telephone 2	← Here Number
009	010	011	012	013	014	

Dialer Telephone 3	Dialer Telephone 4	Dialer Telephone 5	Dialer Telephone 6	C. Station Tel 1	C. Station Tel 2
015	016	017	018	019	020

Tel. 1 is also 'Follow Me', user can program this number by himself. Erasing phone number; go to the address hold down # & \*.

Each Tel Number Maximum 16 digits or # and \*. At address 008 enter the SMS provider center number.

To insert \* in the phone number; Hold-down keys # and \* (as panic), 'A' will be displayed. For central phone systems add Pause during dialing hold-down key '0', add pause only at add 008, **not at** address 009, 010.

### Part 2: Central Station (CS) Settings and Subscribers and Hand Shake (HS)

CS Subsc'r 1 code	CS Subsc'r 2 code	Wait to HS time	HS Mode CS 1	HS Mode CS 2	Delay Report to CS
Must be 4 digits	Must be 4 digits	20 seconds	Hi-Lo	Hi-Lo	4 seconds
021	025	029	030	031	032

At 030, 031: 0=1400Hz, 1 = 230 Hz, 2, = Hi Lo. At 032 it's abort delay

Double CS Report	Report Cls/Open	Rpt Byp Zone @ Arming	CS Test Signal	CS Tst Every Hour	Test Sig Time
(0=No)	(1=Yes)	(0=No)	(0=No)	(0=No)	00:01
033	034	035	036	038	039

Days CS Test Signal
Days: 1 – Sun, 2 – Mon, 3 – Tues, 4 – Wed., 5 – Thu. 6 – Fri., 7 – Sat., 8 - All week's days, 0 – Clear all
Address 037

Key 1 – Hold down test siren	Set clock – Hold down 0 than 1, enter 4 digits HH:MM
Key 2 – Hold down display bypassed zones	Set date - Hold down 0 than 6, enter 6 digits dd:mm:yy
Key 3 – Hold down display troubled zone/s	Enter to program mode – Hold down key 8, than 1 9 9 4 wait P to be displayed
Key 6 than 5 hold down – Test SMS	Exit program mode and user program mode
Key 6 than 7 hold down – Test dial by dialer	Hold Down key 9
Key 6 than 8 hold down – Test dial to C. Station	

### 3. System Features & Times (00 = No, 01 = Yes)

Address	Feature	Default	Address	Feature	Default
↓	<b>Dialer Features</b>	↓	↓	<b>Arm/Disarm Key</b>	↓
041	Instant dialing on entry delay (0=No)	01	089	Use last zone (8 /16) as key input (0=No)	00
042	Siren time during dialer report (sec)	10	090	Use last zone as Freeko key input (0=No)	00
043	SVM 1 time during dialer report (sec)	10	091	Key Arm with Home Mode Grp 1 (0=N0)	00
044	SVM 2 time during dialer report (sec)	10	092	Siren 3 Beeps when Disarm by Key	00
045	Total dialer sound report time (sec)	60	093	Reserved	
046	Inter calls pause for dialer (sec)	20	094	Delay before reporting AC fail (minuets)	10
047	How many times dialer make a call	03	095	Activate Dialer reporting AC fail (0=No)	00
048	Dialer delay before start dialing (sec)	03		<b>Auto Arm, Code Restore</b>	
049	Test dial tone before dialing (0=No)	00	096	Enter time for Self Arming (24H format)	00:00
050	Wait for dial tone before dialing (sec)	04	097	Reserved	00
051	Dialer anti Jan delay	10	098	Passive Arming delay Max 9, Min 05 mint	00
052	Telephone line test intervals (minutes)	00	101	Instant Arming by press Key 5 (0=N0)	00
053	Telephone line test at disarmed (0=No)	00	102	Battery Test upon Arming	01
054	Rings count before system answers	10	103	Show LEDs and Display at Home mode	01
055	Ring Length (unit 10 milliseconds)	15	104	Tamper Zone/s as 24H zone/s	00
056	Ring Cycle (unit 100 milliseconds)	20	105	Reset zones before siren stop (0=No)	00
057	Ring Time Out (minimum) seconds	06	106	Codes restore with * & # enabled (0=No)	01
058	Answer now at phone ring (0=No)	01	107	Display troubled zones even 103=1	00
059	Bypass answering machine (0=No)	00	108	Reserved	
	<b>Exit &amp; Ent. Delay, Pulse Cnt</b>		109	Enable remote DTMF via telephone	01
060	Fast dialing upon alarm (0=No)	01		<b>Remote DTMF &amp; Outputs A1</b>	
061	Reserved		110	Remote Disarm via DTMF Tel (0=No)	00
062	Entry delay 1 (seconds)	12	111	Remote Zone Bypass via DTMF (0=No)	00
063	Entry delay 2 (seconds) X 4	00	112	Reserved	
064	Exit delay (seconds) X 4	08	113	Enable remote control via PC (0=No)	00
065	Time frame for Pulse Count Zone (sec)	08	114	Remote PC sets the system date (0=no)	01
	<b>Siren Features</b>		115	Reserved	
067	Total siren sound time (minutes)	04	116	Enable ON output as Elec. strike trig	00
068	Siren Test on Arming (0=No)	00	117	Reserved	
069	Siren when Tel Line Test fail (0=No)	00	118	Output A1 time set (sec)	30
070	Siren sound On during cycle (sec)	15	119	Activate A1 output at Panic alarm	00
071	Siren sound Off during cycle (sec)	04	120	Activate A1 output at Tamper alarm	00
072	Siren at Bell (DC Output) Mode (0=No)	01	121	Activate A1 output follow siren time	01
073	Siren at Self Contained Mode (0=No)	00	122	Activate A1 output via Remote DTMF	00
074	Reserved		123	Reserved	
075	Buzzer 3 beeps when Disarming (0=No)	01		<b>Outputs A2, SLO &amp; Times</b>	
	<b>Keypad (KP) Buzzer</b>		124	Output A2 time set (minuets)	04
076	Activate buzzer at entry delay (0=No)	01	125	Activate A2 output at Panic alarm	00
077	Activate buzzer at exit delay (0=No)	00	126	Activate A2 output at Tamper alarm	00
078	Activate buzzer at Tel Test Fail (0=No)	00	127	Activate A2 output to trig SVM2	00
079	Activate buzzer at Home Mode (0=No)	01	128	Activate A2 output to trig Listen In	00
080 (1)	Activate buzzer keys feedback (0=No)	01	129	Reserved	
081	Activate KP Panic keys * & # (0=No)	01	130	Activate SLO output at Panic alarm	01
082	Activate siren at KP Panic (0=No)	00	131	Activate SLO output at Tamper alarm	00
083	Activate Tel Dialer at KP Panic (0=No)	01	132	Activate SLO output at Tel Line Fail	00
084	Activate KP Buzzer at Panic (0=No)	00	133	Activate SLO output via Remote DTMF	00
085 (2)	Activate Panic keys at AV707-B (0=No)	00	134	Reserved	
086	Reserved		135	Activate SLO2 output to trig SVM1	00
087	Number of Beeps for Chime Zone	03	136	Activate SLO2 output as Smoke Reset	00
088	Reserved		137	Reserved	

(1) LED keypad only (2) LCD keypad only. In LCD keypad to mute buzzer hold down 0 & # for 2 seconds.

4. ZONE 1 to 16 FEATURES (> refers to the value setting address)

Zone Number →	Add.	Zones 1 to 8								Add.	Zones 9 to 16							
		1	2	3	4	5	6	7	8		9	10	11	12	13	14	15	16
Feature ↓		Group 1									Group 2							
Zone In Use	204	1	2	3	4	5	6	7	8	205	1	2	3	4	5	6	7	8
Entry/Exit Delay 1 >062	208	1								209								
Entry/Exit Delay 2 >064	212									213								
Entry / Exit Follower	216		2							217								
24-Hour Zone	220									221								
Fire Zone	224									225								
Day Zone	228									229								
Group Bypass 1 (home mode)	232									233								
Group Bypass 2 (home mode)	236									237								
Manual Bypass Enabled Zone	240	1	2	3	4	5	6	7	8	241	1	2	3	4	5	6	7	8
Keypad sounder on Alarm	244	1	2	3	4	5	6	7	8	245	1	2	3	4	5	6	7	8
Siren Output Zone >067	248	1	2	3	4	5	6	7	8	249	1	2	3	4	5	6	7	8
A1 output Zone	252	1	2	3	4	5	6	7	8	253	1	2	3	4	5	6	7	8
A2 output Zone	256									257								
SLO output Zone (not timed)	260									261								
Siren sound on telephone line	264	1	2	3	4	5	6	7	8	265	1	2	3	4	5	6	7	8
SVM1 message on tel line	268									269								
SVM2 message on tel line	272									273	1	2	3	4	5	6	7	8
Chime Zone	276	1								277	1	2	3	4	5	6	7	8
Pulse count Zone >065	280									281								
Panic reports to CS Zone	284									285								
Zone without end of line res.	288	1	2	3	4	5	6	7	8	289	1	2	3	4	5	6	7	8
Double Zone Alarm & Tamper	292									293								
Green Zone (activated once)	296	1	2	3	4	5	6	7	8	297	1	2	3	4	5	6	7	8
Swinger Shut-Down	300									301								
Normally Open (N.O.) Zone	304									305								
Delayed Power-Up Zone	308									309								
Fast response zone	312									313								

Factory Default Program is as shown in table; Blank Square means no default program  
 SLO = Selective Output.

5. ZONE 17 to 32 FEATURES (> refers to the value setting address)

Zone Number →	Add.	Zones 17 to 24								Add.	Zones 25 to 32							
		17	18	19	20	21	22	23	24		25	26	27	28	29	30	31	32
Feature ↓		Group 1									Group 2							
Zone In Use	206	1	2	3	4	5	6	7	8	207	1	2	3	4	5	6	7	8
Entry/Exit Delay 1 >062	210									211								
Entry/Exit Delay 2 >064	214									215								
Entry / Exit Follower	218									219								
24-Hour Zone	222									223								
Fire Zone	226									227								
Day Zone	230									231								
Group Bypass 1 (home mode)	234									235								
Group Bypass 2 (home mode)	238									239								
Manual Bypass Enabled Zone	242	1	2	3	4	5	6	7	8	243	1	2	3	4	5	6	7	8
Keypad sounder on Alarm	246	1	2	3	4	5	6	7	8	247	1	2	3	4	5	6	7	8
Siren Output Zone >067	250	1	2	3	4	5	6	7	8	251	1	2	3	4	5	6	7	8
A1 output Zone	254	1	2	3	4	5	6	7	8	255	1	2	3	4	5	6	7	8
A2 output Zone	258									259								
SLO output Zone (not timed)	262									263								
Siren sound on telephone line	266	1	2	3	4	5	6	7	8	267	1	2	3	4	5	6	7	8
SVM1 message on tel line	270									271								
SVM2 message on tel line	274									275	1	2	3	4	5	6	7	8
Chime Zone	278									279	1	2	3	4	5	6	7	8
Pulse count Zone >065	282									283								
Panic reports to CS Zone	286									287								
Zone without end of line res.	290	1	2	3	4	5	6	7	8	291	1	2	3	4	5	6	7	8
Double Zone Alarm & Tamper	294									295								
Green Zone (activated once)	298	1	2	3	4	5	6	7	8	299	1	2	3	4	5	6	7	8
Swinger Shut-Down	302									303								
Normally Open (N.O.) Zone	306									305								
Delayed Power-Up Zone	310									311								
Fast response zone	314									315								






Factory Default Program is as shown in table; Blank Square means no default program  
 SLO = Selective Output.

## 9. STEP - BY - STEP PROGRAMMING

### Entering Installer (Engineer) Programming Mode Via AV-706 or AV-707 Keypad

**Easy Tip:** You may program any address by entering the address, followed by the value in sequence. For LCD keypads **press # (enter)** to confirm the hold down command

Power up by connecting AC power with or without battery.

1. Hold down keypad key  (hold-down function).
2. While four LED's are blinking enter programming code ('1 9 9 4')   
   #

(the # is your Enter key, after each entry press #)

3. If code is valid 'Installer Progr.' will be displayed. The two left LED's (Red & Green) blink to indicate that system is waiting for a new address.

4. Enter the address you want to program (see programming sheet). Current value of address is displayed, and LEDs will blink.

**Note:** Blinking of 2 left most LEDs, means **system is waiting for new address to be entered;**






**Enter a 3 or 2-digit address (according to address length.)**

**Note:** 3 blinking LEDs means **system is waiting for new value to be entered;**








**Enter a 2-digit value, or as required.**

#### EXAMPLE 1:

System in program mode; 'Installer Progr.' is displayed and the two left-most LEDs are blinking.

1. Program zones 1 and 4 as 'Exit/Entry Delayed 1' zone.
2. Address 104 represents the 'Exit/Entry Delayed 1' zones.
3. Press    #; current value of this address is '1' (default program.)  
Three LEDs will blink and a 'Loc 104 1 - - - - -' will be displayed (default program).
4. To enter new required value press the address number > 104; followed by the new required value ('1' and '4') by pressing   in uninterrupted sequence; new setting will be displayed to confirm 'Loc 104 1 - - 4 - - -'

#### EXAMPLE 2:

1. Program zone 8 as 24H zone (in default, this is an Instant Zone).
2. Address 116 represents the 24H zones.
3. Press    #; current value of the address is "Loc 116 - - - - -  
- - -" ('-' means blank - no 24H zone is programmed).
4. To enter new required value press the address number    #; cursor move to Upper row, then enter new value '8,' by pressing  (zone 8); new setting will be displayed confirms programming updating.

**Note: At programming enter '0' in order to delete a feature**



### **EXAMPLE 3:**

1. Program Siren Time for a 2-minute duration (default 4 minutes).
2. Address 063 represents the Siren Time.
3. Press    #; current value of the address is 04;  
Two LEDs blink and '04' will be displayed (default program).
4. Enter 063, then a new value of '02' by pressing   #. New setting display, confirms programming updating.

### **EXAMPLE 8: Report to Central Station**

**Note: To enter data use two digits entry, i.e. in address 201 to change the transmitted code from the default value '3' to '5', at keypad enter '0' and '5' (not 5). If '5' entered, an 'E' (Error) appears**

① Enable communicator to report to central station (in default programming communicator is disabled, and dialer is activated upon alarm). Telephones 2 and 3 (refer to program sheet) are used to communicate to central station.

② Contact the central station to get receiver format, event codes, subscriber number, handshake frequency (1400 or 2300 Hz), and telephone number(s). Two telephone numbers are available, 'Tel. 2' is main central station Tel. Number and 'Tel. 3' is backup, in case 'Tel. 2' fails.

Do not program different formats for each telephone.

③ Refer to part '7' of the programming sheet. Fill in central station's details. Most important parameters are the Receiver Format, Handshake frequency and Data Format.

### **Opening and Closing Reporting to Central Station**

By default, (address 072) Closing/Opening reported to central station. The report contains the subscriber ID; the Closing/Opening events, and the user number (1 to 16).

In order to avoid reporting Closing or Opening for specific user erase the user Closing or Opening code. The system will check for non-reporting programming and will not initiate dialing if the user is programmed for non-reporting of Opening or Closing.

If you check the contents of address 242 (00 is programmed), a '-' will be displayed, indicating that this location is blank (empty).

### **Communicator's Subscriber ID Codes - EASY Programming**

Refer to part 10 of the programming table; System is in program mode, enter ID address, 4 LEDs are blinking, enter the subscriber ID code in sequence.

Example: Your subscriber ID number is 2170 for Closing/Opening of telephone 1; refer to address number 376. Keypad in programming mode, 'P' is displayed, press 376, four LEDs are blinking, enter 2170.

**Note: EASY Programming is not included in the *EasyLoad* screen (programming via computer).**

**Note: Even if your communicator receiver requires three digits for the subscriber ID, enter four digits. The system will ignore the fourth digit.**

If your central station requires programming of letters as well as numbers, refer to the HEX programming description. Use the regular programming method of entering each letter or number in each address, as explained in the programming table (HEX method).

**Contact ID Format (known also as Ademco Express):** This is the fastest to program and easiest to use format, with communication speed achieved by the DTMF signaling. When using this format, program only the CS telephone numbers and subscriber ID; all reports automatically transmitted, without programming anything else.

To select the Contact ID format: In address 021 enter 07, same for address 022 is you need the back up reporting, enter the subscriber ID (refer to part 10 of programming table). Also enter the subscriber ID at address 360 and 364, must be 4 digits number. Some CS receivers requires different Hand shake frequency; program address 023, 024 to be 00, or 01, and "waiting for hand shake" time, address 215 = 40.

## 9.1 Reset System to Default Programming

In case you made programming changes and the system operation is wrong it is recommended to set system to the defaults program. **Warning**, this function erases all codes and system programming settings.

1. Enter program mode.
2. Go to address 200 and enter '6' and '9'. Display will show **Factory Default**, and system will revert to factory default program and codes (Code No. 1 is 1 2 3 4; programming code will be 1 9 9 4)

**Note:** Erroneous or conflicting programming features are discarded by the system upon quitting program mode. For example: Programming the same zone as 24H type and Delayed zone will be recognized only as a 24H zone.

### Reset System to Default Codes (In case code is lost)

To enable this feature, verify value 8 in programmed in address 072.

Power down, than power up by applying the AC power. After power up wait until the keypad display the panel version, and status LED light on.

Hold-down keys  Press both together  during 5 seconds (after applying AC); sounder beeps during the hold-down, release keys; \*\*\*\* OK \*\*\*\* displayed in confirmation. User code No. 1 (1234) and programming code (1994) will reset to default.

## 10. Powering Up & Wiring Diagram

### 10.1 Before Powering Up

- Place Control Panel in a well-ventilated location and as far as possible from any heat, transmission and high humidity source.
- Do not place high power RF wireless transmitters near Control Panel.
- Check for proper grounding.
- Make sure detectors, keypads or any other devices are connected to the Control Panel in their correct polarities.

- Connect a momentary voltage to the siren; making sure a 'beep' is sounded. In case of no beep, check for a short circuit or improperly connected wires.
- Power-up through transformer, if system seems to operate properly connect the battery.
- Better do not connect any sensors or other devices to the battery terminals.
- Series 4000 is compatible with 12V smoke detectors, common collector type or relay (-) output on alarm, however, adding a manual Reset switch is required.

Momentary switch achieves smoke detector reset. The switch (or relay) disconnects power to smoke detector following a smoke alarm.

## 11. Technical Specifications AV-4009, AV-4016

Operating Temperature	-10°C to 60°C
Relative Humidity	80% maximum
Input Power	AV-4009: 16V AC or DC step-down Transformer Rated current: 1.2 Ampere AV-4016: 16V AC step-down Transformer Rated current: 1.6 Ampere
Dynamic Inner Memory	EEPROM, store 250 events
Auxiliary Power Output	13.6 Volts +/- 5%, Regulated Short & Overload circuit protection
Siren Outputs (2)	Siren or Bell Selectable Bell Mode: 13.6V DC-0.65A Fuse protected Siren: 8 Ohms, 20W
Dialer: Programmable 5 telephone numbers & 1 Follow-Me telephone number (6 tel. numbers). Interfaces are available: 600Ω, E, AS Voice module input. E version is TBR-21 approved, AS version is AUSTEL approved. Jumper for CCTC/GSM mode	DTMF: Touch Tone dialing ® Max. Telephone number length: 16 digits and 4 pauses.
SMS via PSTN lines or via GSM at LED model	To four numbers
Remote Indications on Wire Terminal	Open Collector type output 100 mA Max. @ 12V DC
EOL Zone Loop Resistor (Burglary) EOL Zone Loop Resistor (Tamper)	2,200 Ohms, 0.25W, +/- 5% 4,700 Ohms, 0.25W, +/- 5%
Zone Loop Voltage	5 to 6.5 V DC
Zone Loop Current	3 mA with End-Of-Line Resistor
RFI and EMI protection	Zone line shorting, cutting, high voltage lightning protection, Electro Static Discharge Traps, RF Filters. Telephone line Lighting protection circuit
Auxiliary Power (Max.)	AV-4016: 13.6 VDC 1.1A Combined Aux. Power and Keypad outputs AV-4009: 13.6 VDC 0.9A Combined Aux. Power and Keypad outputs
Battery Charging Current (Max.)	550 mA, current limitation
Battery Test: Indication at keypad or remote indication via communicator.	Performed at 0.5A load for 1 second. Low Battery indication below 10.5V Tested upon Arming & every 60 minutes during Armed and Disarmed
Standby Power Consumption at Disarmed mode, and Keypad display is Off	90 mA, +/- 10 %
Maximum Remote Station (Keypads)	AV-4016: 5 Keypads AV-706, AV-707, AV-707TP AV-4009: 3 Keypads AV-706, AV-707, AV-707TP
Remote Station Current Consumption	50 mA at standby
Housing Dimensions	(H) 38, (D) 9, (W) 23 cm
Housing	AV-4009: ABS box, White color AV-4016: Metal, Anodized, lockable metal box. Epoxy anti-static powder painted
Gross Shipping Weight (without transformer)	AV4009: 1.1 kg. 6 PC's per master box AV4016: 1.6 kg. 3 PC's per master box
Fuses: Electronic Resettable Fuses	Auxiliary Power: 1.25A Sirens: 2 X 1.25A (fuse for each siren) Backup Battery Fuse: 2.5A

Av-Gad Systems Ltd. reserves the right to modify and upgrade products without prior notice.

## 12. TROUBLESHOOTING

Symptom	Possible Cause	Remedy
System not work properly	Programming fail	Set to default factory programming: In programming mode enter 200 than 69
Keypad failure	<ul style="list-style-type: none"> <li>• Incorrect wiring</li> <li>• Blown fuse</li> </ul>	<ul style="list-style-type: none"> <li>• Check color wire connection</li> <li>• Check power at panel</li> </ul>
Keypad displays '8,' but does not react to pressing of keys	Incorrect connection of data wires	Check Orange and Yellow wire (or terminal block) connections at keypad and system
Keypad displays 'Zone 8,' and keypad buzzer is sounding	Zone 8 is troubled	Close or bypass zone 8 (zone 8 is 24H-type by default)
AC fail is displayed	Power failure	<ul style="list-style-type: none"> <li>• Connect AC power, verify that main socket is alive</li> <li>• Check transformer</li> </ul>
'Panic is displayed	Panic keys were pressed	Arm and disarm
No siren upon keypad panic, but siren test is OK	Faulty programming	Panic alarm address should have a value greater than '0' (zero). See address 050.
No siren upon alarm at troubled zone	<ul style="list-style-type: none"> <li>• Programming</li> <li>• Siren fuse</li> <li>• Alarm device blown</li> </ul>	<ul style="list-style-type: none"> <li>• Siren time-out addresses should have a value greater than '0' (zero)</li> <li>• Check fuses and</li> <li>• Check that sirens operates</li> </ul>
Dialer dials, but no alarm message is transmitted on telephone	<ul style="list-style-type: none"> <li>• Faulty programming</li> <li>• Hardware fail</li> </ul>	<ul style="list-style-type: none"> <li>• Check Tel Number address</li> <li>• Test telephone line</li> </ul>
Zone is troubled even though EOL resistor is connected or zone is wire bypassed	<ul style="list-style-type: none"> <li>• 'EOL Zone' feature incorrectly programmed</li> <li>• Incorrect resistor value</li> </ul>	<ul style="list-style-type: none"> <li>• If EOL mode is programmed, connect resistor across zone terminal for testing</li> <li>• Use 2.2K resistor</li> </ul>
System self-arming	<ul style="list-style-type: none"> <li>• Remote key wires are too long</li> <li>• Key '5' was programmed for 'Instant Arming'</li> </ul>	<ul style="list-style-type: none"> <li>• Run shorter wires from panel to remote key</li> </ul>

<b>Symptom</b>	<b>Possible Cause</b>	<b>Remedy</b>
Cannot disarm system	<ul style="list-style-type: none"> <li>• Code was changed before instant arming</li> <li>• 'Lock in tamper mode'</li> </ul>	<ul style="list-style-type: none"> <li>• Keypad wires are too long</li> <li>• Disable instant arming</li> <li>• Verify address 071 value '6'</li> </ul>
'P' displayed after attempt to change end-user code	Verify the last User-Code	You may proceed with 'Default Programming' to revert system to default codes
"No Communication" displayed keypad keys do not response	Power to keypad is OK, communication wires are incorrectly connected, or are disconnected	<ul style="list-style-type: none"> <li>• Make sure wiring is correct</li> <li>• Check wires at panel</li> <li>• Replace keypad</li> </ul>
'Low Battery' displayed upon arming, but battery is OK	Battery fuse failure	<ul style="list-style-type: none"> <li>• Test system without AC power; if inoperative, battery fuse not rested</li> <li>• Disconnect battery wires and wait 5 minutes</li> </ul>
In alarm mode, Aux. power drops below 10V	Aux. power overloaded	If current consumption of Aux. power exceeds max. rate, add external power supply (AV-21, AV-40)
No Entry delay	Key '4' (delete delays) was held down	Arm and then disarm to cancel this function
Programming fails to update features	Faulty programming	Verify programming features
Upon Arming, Bypass (shunt) Orange and Red LEDs light up	Auto bypass of instant zone was programmed	Verify programming address Home Mode groups
Dialer does not dial on alarm, even though line and connection are OK	Programming error	<ul style="list-style-type: none"> <li>• Dialer or communicator time-out addresses should have a value greater than '0' (zero)</li> </ul>
Remote signaling outputs do not drive (-)	<ul style="list-style-type: none"> <li>• Overload</li> <li>• Incorrect testing</li> </ul>	<ul style="list-style-type: none"> <li>• Current consumption from output to load should be not higher than 50 mA (test outputs by connecting voltmeter from output to (+) Aux. power; upon signaling, meter should read 12.5 to 13.6 Volts)</li> </ul>

Symptom	Possible Cause	Remedy
Buzzer sounds in disarm mode	Hold-down function was entered or Day zone triggered	Arm and then disarm to cancel chime and fault find features, or hold-down key '9' to reset day zone alarm
User code is unknown	User forgot the Arming code	Refer to 'Resetting Codes to Default' feature
Panel's PCB is getting hot, system doesn't function normally	<ul style="list-style-type: none"> <li>• AC power is too high</li> <li>• Power supply overloaded or faulty battery (shorten)</li> </ul>	<ul style="list-style-type: none"> <li>• Measure the low AC power; should not exceed 17V</li> <li>• Try to disconnect sensors, keypads or other loads that consume high current</li> </ul>

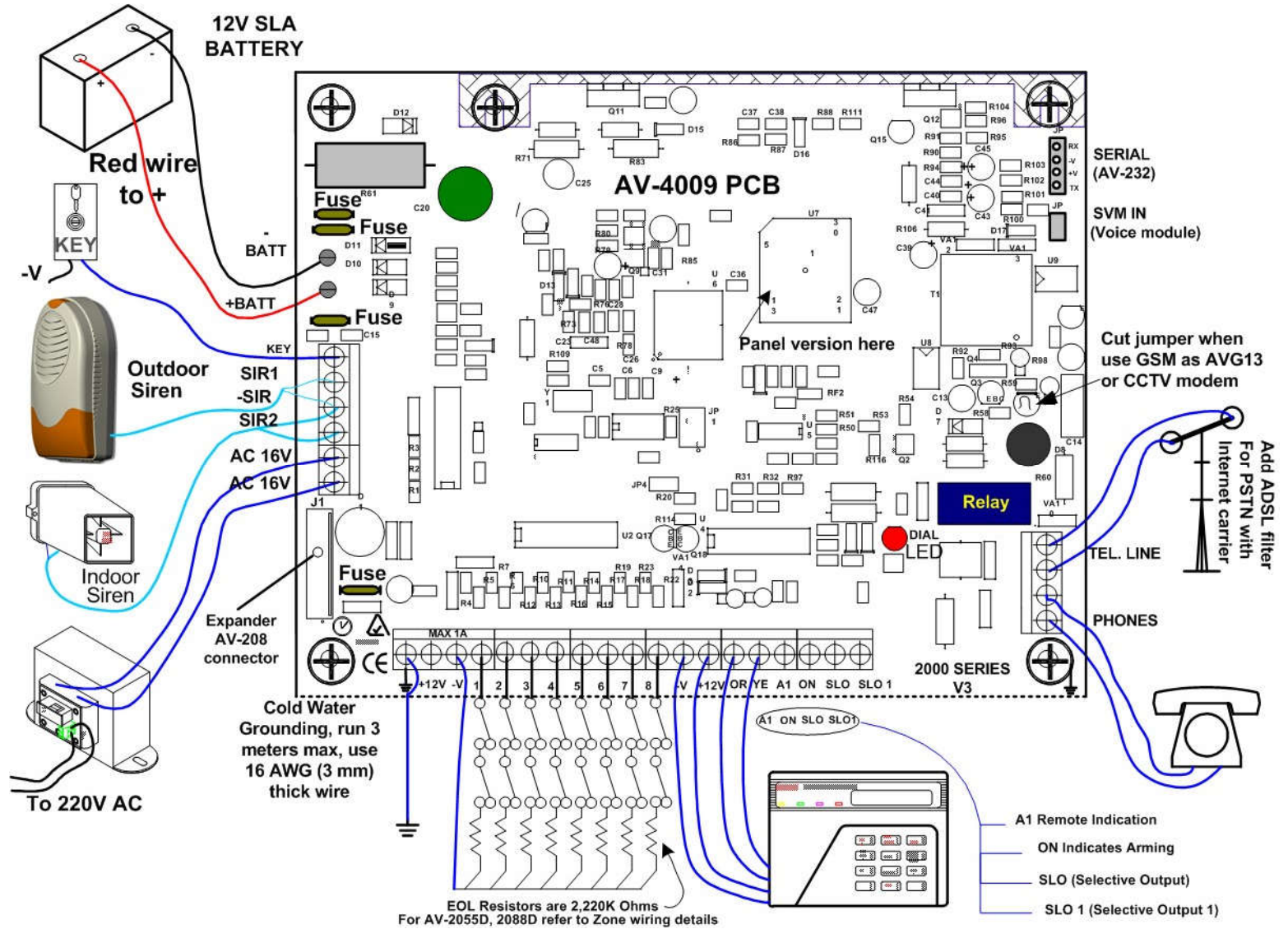
For additional assistance, please contact first your local distributor, in case problem not solved contact Av-Gad Systems Ltd, mention your vendor.

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### 13. Wiring Diagram AV-4009 AV-4009 Wiring Diagram

**WARNING:**  
To prevent electrical shock, disengage the System and disconnect the telephone line before servicing this unit.







## 15. Wiring Diagram AV-4016 AV-4016 Wiring Diagram

### WARNING:

To prevent electrical shock, disengage the System and disconnect the telephone line before servicing this unit.

### Auxiliary Power Output

Regulated 13.8V.  
Observe maximum current 1.1A for keypads and 1.1A for Aux. power

