

EasyLoader **AV-2005 & AV-2008**

Integrated Alarm Control/Communicator

Year 2000 ready

Installation and Operation Manual

Version 2.17C

Edition IIII

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



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SECTION I: SYSTEM FEATURES

1. INTRODUCTION

1.1 □ General Description

• *Av-Gad's EasyLoader™ Series* is a microprocessor-based intruder alarm panels with integrated communicator and modem for up and download. They feature eight or five plus one panic zone, each programmable.

Series 2000 represent the state-of-the-art in user-friendly, reliable alarm control panels for security requirements of small and medium-size commercial, residential, and industrial installations.

Read this manual before installing AV-2004, AV-2048 (for further details refer to AV-2004/48 Express Installation Manual).

• *Av-Gad's EasyLoader™* versatile control panels meet and surpass all requirements for reliability and maintains. Provide the added benefits of easy installation and simple operation.

• The *PRO Version* is an upgraded model of the *Series 2000* panels, specially designed to be compatible with AV-707 and AV-706 (English Text) keypads.

• *The Series 2000* comprise an enhanced power supply, improved electronics and additional signaling indicators.

• *The innovative keypads (AV-701, AV-702 and AV-707)* are unquestionably the user-friendliest remote station, designed to enable easy control of the system by the end-user, as well as by the installer. For *PRO* users: AV-706/7 LCD keypads have a separate manual, wiring and features are unchanged, read this manual before using and installation.

Version 2.08 - 2.17 news

- Four new features as described in address 073
- Improved display of AC fail during armed mode
- Auto Arming option
- New Tamper features and software filtering
- Improved telephone interface meets international standards
- Selectable '0V' or 'Low' at alarms outputs
- 2.09: Sleep Mode during AC fail. Zone bypass recorded in the history log, SVM module can be triggered by SLO or by ON output. Improved programming of user code – Pause after entering the user index
- 2.10: Ring Detector with software rings counting
- 2.11: Ring Detector adjustment by software at address 093, new address 074-3
- 2.12: Available at 2000 PRO: New eight automatic timers. 'Green Reset Zone' default to all zones
- 2.13: For special PRO version with Aux. Power Cut; provides control via SLO (074-4)
- 2.14: Special PRO UK version; 250 events log, central station verification
- 2.16 PRO only; two bypass groups, Police Zone, supports AV-707B, telephone line monitor, line fault listed in events log
- 2.17: Improved PCB with additional +12V terminal, New Panic Zone; address 045, enhanced events log display, telephone line monitor, zones set to Green type by default, new ring detector features at address 095, 096 provides answering machine bypassing, three Bypass Groups. AC fail report to dialer, AC fail report delay.

1.2 □ Features

- Accepts normally closed or normally open alarm devices, Tamper indication per zone
- All features are programmable via system keypad or remote modem
- Advanced static and lighting protection; unique Lighting Pro circuit for total protection
- Auto arming set by end user and/or installer
- Central station communicator and built-in TBR-21 or AUSTEL approved telephone dialer. Communicator is compatible with most major formats: Contact ID, Ademco fast and slow, Radionics, Scantronic, Sescoa, etc
- Chime programmable for each zone
- Digital zone-status display
- Double-Pole zone. Tampering indication for each zone
- Dialing Mode: Pulse or DTMF. Dialing to pagers in Hong-Kong and Singapore
- Electronic fuses: Aux. Power, battery and siren/bell outputs (2)
- Group bypass for three groups
- Keypad sounder during local alarm
- Local clock with 'set time warning'
- Modulated 2-tone siren from 24H and panic zone(s), 3-tone alarm from burglary zone(s)
- Programmable 3 output drivers for remote signaling and reset of smoke detectors
- Programmable 5 or 8 EOL resistor zones, or non-EOL zones
- Pulse-operated battery charging circuit
- Low battery indication
- Signals to central station monitoring (via wire or wireless)
- Remote control via DTMF phone (available with AV-2008D only)
- Voice module option (SVM-40)
- Up and Download via RS-232, or telephone line using a PC modem
- Up to 250-alarm log (PRO version), with time and date stamped
- Up to eight EOL supervised double-zones
- Up to eight user codes, each code of up to six digits

1.3 □ Programmable Features

- 24-hour zones, fire zone
- End of Line (EOL) zones (EOL is selectable)
- Automatic bypass of open (troubled) 'instant' zones upon arming
- Delayed, Follower (conditioned), Not In Use, Day, Tamper or Instant zones
- Individual entry delays for two zone groups
- Selectable response time for individual zones
- Selective and Zone Group Bypass (Group Shunt)

1.4 □ Alarm Outputs

- Three programmable open collector output drivers for remote alarm signaling
- Auxiliary output for electric door strike operation
- Communicator to central station and alarm sound dialer
- Keypad sounder alarm programmable per zone

- Two-timed siren outputs, each protected by separate fuses. Programmable 'Bell Mode'
- Variable siren tones for different types of zones
- Signal test to central station, signaling time is programmable

- **Remote Signals:**
 - 24H-zone Alarm
 - On/Off (Arming/Disarming) indication
 - Programmable transmitting time of signal test to Central Station
 - Panic per zone
 - Programmable outputs for each zone or event (SLO and A1 output)

1.5 □ Technical Specifications Series 2000

Operating Temperature	-10°C to 60°C
Relative Humidity	80% maximum
Input AC Power	16V AC step-down Transformer Rated current: 1.2 Ampere
Dynamic Inner Memory	EEPROM
Auxiliary Power Output	13.6 Volts +/- 5%, Regulated Short & Overload circuit protection
Siren Outputs (x2)	Siren or Bell Selectable Bell Mode: 13.6V DC-0.65A Fuse protected Siren: 8 Ohms, 20W
Dialer: Programmable 3 telephone numbers & 1 Follow-Me telephone number (4 tel. numbers). Three tel. Interfaces are available: 600Ω, E, AS Voice module input. Multi-format central-station communicator. E version is TBR-21 approved, AS version is AUSTEL approved	Pulse Dialing programmable parameters DTMF: Touch Tone dialing ® Max. Telephone number length: 16 digits and 4 pauses.
Remote Indications on Wire Terminal	Open Collector type output 300 mA Max. @ 12V DC
EOL Zone Loop Resistor (Burglary)	2,200 Ohms, 0.25W, +/- 5%
EOL Zone Loop Resistor (Tamper)	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, RF Metal Screen, Electro Static Discharge Traps, RF Filters. Telephone line Lighting protection circuit
Auxiliary Power (Max.)	<u>AV-2005/8:</u> 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. Battery monitors cut-off circuit at Golden version	Performed at 0.5A load for 1 second. Low Battery indication below 10.5V Tested upon Arming and 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)	3 Keypads AV-701TS, AV-701TI 5 Keypads AV-702 5 Keypads AV-707
Remote Station Current Consumption	AV-701TS: 27mA. AV-701TI: 36mA AV-702: 40mA. AV-706/7: 60mA
Housing Dimensions	(H) 30, (D) 9, (W) 23 cm
Housing	Anodized, lockable metal box Epoxy anti-static powder painted
Gross Shipping Weight	2.2 kg. 6 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.

Starting version 2.09 New Fuse Included - Electronic Fuse Overview

The Electronic Fuse (resettable) device is installed as a series element in a 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 dangerous high current. But unlike traditional fuses, they automatically reset after the fault is cleared and power to the circuit is removed. Because they are solid-state, Electronic Fuses are also able to better withstand mechanical shock and vibration. This fuse provides 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 is in protection mode, disconnect the load and wait 2-3 minutes until the fuse body gets cooler.

Series 2000 compared to series 860

The new **Series 2000** control panels is a result of long research and exploration we at Av-Gad did among our customers, installers and end-users requirements. In late 1998, we started the R&D and design of the **Series 2000** new systems that will keep customers smile and our QC guys happy.

Our main task was to come with 100% protected system that will ensure high reliability, more features and flexibility.

The result is an improved system, supporting the Series 860 way of programming and wiring, but offers great advantages of improved assembly technology and features.

The Series 2000 contains new hardware with improved EMI, RFI and Lighting protection with a complete new telephone interface to meet all the telephone standards in the world. New zone interface with improved Alarm and Tamper reading that use the double-zone feature, new and more efficient battery test circuit, new siren driver and more.....

**Important: Test the alarm system weekly and/or before leaving your premises.
Verify that main AC supply is connected.**

1.6 □ Ordering Information

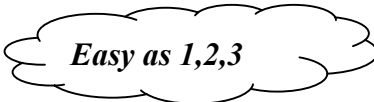
Item Code	Description
AV-865/8M	5 + 1 (8 + 1 for 868). Discontinued types
AV-2005/8 AV-2008D	5 + 1 zone Alarm Control Panel and Communicator/Dialer, built-in up & download modem, options for SVM-40 and RS-232, electronic fuses. AV-2008D provides remote control via any phone. Supports AV-701, AV-702
AV-2005/8 PRO	5+1 (8 + 1) zone Alarm Control Panel and Communicator or Dialer, built-in up & download modem. Provides connection of voice module as SVM-40. RS-232 socket included. Supports LCD keypad types AV-707, AV-706. PRO types are compatible only with LCD keypad
AV-2005/8AS AV-2008 Golden	5/8 + 1 zone Alarm Control Panel and Communicator or Dialer, built-in up/down load modem. Provides connection of voice module as SVM-40. RS-232 socket included. Battery monitors cut-off at AV-2008 Golden version. AV-2005/8AS is Australian version, with AUSTEL approved telephone interface. Supports AV-701, AV-702. PRO types are compatible with LCD keypads AV-707, 706
TMP	Tamper switch with wires for main alarm metal box. Not supplied, requires separate order
AV-701TS	Cost-saving 4-wire Keypad. 7-segment Digital Display, 4 LEDs, 12 silicon rubber keys, and local sounder, semi-backlight. Connected to panel via 4 terminal wires
AV-701TI	Identical to AV-701TS, with additional timed backlight illumination
AV-702 and AV-702TP	New shape housing. Improved circuitry provides longer wiring and better communication. 4-wire Keypad. 7-segment Digital Display, 4 LEDs, 12 silicon rubber keys with protection door, local sounder. Similar to AV-701. AV-702TP with Tamper switch
AV-707/TP AV-707B AV-706	4-wire Keypad. LCD Display, 4 LEDs, 12 silicon rubber keys. Built-in microprocessor. Compatible with PRO panels. AV-707TP, AV-706TP with Tamper switch, AV-707B, BG, BS are supplied with 3 functional buttons
5003TER	Fuse-protected 220V step-down to 16V-1.2A AC transformer, wire terminal, line filter, fits all AV-2005 and AV-2008 panels
5003	Low cost 16V-1.2A transformer
RELAYMO	Relay module for driving self-powered siren.
SVM-40/60/90	Speech module, record & play, message stored without power, 40, 60 or 90 second message may be split into 2 channels. Message is recordable without additional programmer.
AV-21 and AV-21B	Extra 12V-1.5A, power supply and charger, supplying the power for large installations. AV-21 supplied as PCB. AV-21B supplied as PCB housed in metal box.

SECTION II: INSTALLATION

System planning


When the panel reaches you it will be factory programmed. This is done for testing purposes and for average installation, if required without first entering to programming. This present program is referred to as 'Factory Defaults.' It is advised that the engineer should be familiar with all the features and options before attempting to program. Keypad should be specified and ordered separately (several types available). Default arming code (user 1) is 1,2,3,4. Default programming code is 1,9,9,4. **For best results please read the manual before installation and programming.**

Tips to first time installer



Easy as 1,2,3

If you are a first time installer, don't hook up any remote sensors yet. 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 with loops of wire. This will simulate a system with all zones looped out through closed switches and no EOL resistors. 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.

- ☞ Read this manual carefully, it looks complicated, but all the information is there
- ☞ If you are using a PRO panel carefully read the manual supplied with your LCD keypad. LCD and LED keypads cannot operate in the same system. For AV-2008D (remote DTMF) refer this type appendix
- ☞ To start with: Hook up the keypad, connect all zones to -V, power-up by applying AC only
- ☞ In case the keypad displays 'garbage' verify the minus (-V) wire connection
- ☞ 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; follow the confirmation letters in keypad's display
- ☞ Set the system time by holding-down key '1' then '0', enter the time in 24 format, this will stop the blinking 'h'
- ☞ The default programming is set for siren; the siren is plain speaker horn, if your alarm device requires 12V to alarm, you have to change the programming to Bell mode
- ☞ Connect the strobe light to the SLO output (requires programming). The SLO supplies -V during alarm
- ☞ Make sure you are using the Earth terminal  for Grounding; it's not a minus terminal
- ☞ Typing six erroneous codes will lock the keypad keys for 30 seconds, don't change code for starting

1. MOUNTING

1.1 ☐ Control Panel Mounting

Refer to detailed wiring diagram on page 61. Note: 'h' is displayed after power-up and upon Arming to remind user to set the system time; 'h' will be removed after time setting, by using keys 0 and 1, (refer to page 22, 26). Install the panel in a ventilated place, far away from RF transmitters or other electric noise generators.

Select a mounting location accessible to the following:

1. A continuously powered (non-switched) AC power source, compatible with any step-down transformer. Make sure the mains (110 or 220V) are fused.
2. Cold water pipe Ground, ideally no farther than 3 meters (10 feet) from the panel. Use 16 AWG (0.5 mm²) wires.
3. Telephone Line socket.

Always install the control panel box in a difficult-to-access location.

It is recommended to locate one of the Keypads near the Entrance/Exit door.

Install a tamper-switch to detect opening or removal of the control panel box.

Ideally, the tamper-switch is connected to a 24H zone type (24H zone is active at all times).

1.2 Zone Wiring Mode

Series 2000 allows several ways of zone wiring: Non EOL (End-of-Line) resistor loop, EOL resistor loop, EOL for double zone loop. The EOL loop protects the zone lines against tampering. EOL mode is safer and prevents EMI and RFI interference.

Via programming, select either EOL resistor protection, or non-EOL mode. The EOL is defined at address 029; the default program is set at non-EOL for all zones. To set EOL mode select at address 029 the required non-EOL zone. Note that address 029 selects the non-EOL zone. Enter '0' in address 029 to enable all zones as EOL.

If E.O.L. mode selected (recommended), install the EOL resistor (2.2K/0.25 or 0.5W) inside the detection device (e.g. PIR, Magnetic Switch). Using EOL mode is highly recommended. In EOL mode don't connect two or more sensors on same zone.

Starting version 2.12 'Green Reset Zone' (refer to Glossary Section) programmed by default to all zones.

Maximum zone wiring length is 200 meters when using 0.5-mm² (gauge 22 wire) wires.

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

Do not run wire zones alongside telephone wires, high voltage wires, or transmitting antennae
It is recommended to always use EOL resistor mode, to prevent EMI and RFI interference

Double-Pole Zone wiring:

The Double-Pole Zone feature saves wiring and doubles the zone quantity by using two wires instead of four, for both Tamper and Alarm indications. All zones common is the -V, for sensors (PIR, Beams, etc) use a three or four wire cable; two wires for 12V power and one or two wires for zone.

For a Tamper condition: Fit the zone with EOL resistors, permit the 'Enable Zone Tamper' feature by programming the address number 030.

Upon Tamper alarm, a 't' will be displayed at keypad, followed by the zone number. At Disarmed mode, holding-down key '9' (Reset) disables the Tamper alarm at the alarmed zone.

Starting from version 2.08 (and up), any EOL zone will report Tamper alarm in case of zone shorting (if it has been EOL programmed). To enable Tamper zone as 24H zone refer to address 051/1.

Upon Tamper alarm, a 't' will be displayed, followed by the zone number. To disable Tamper alarm, hold down key '9'.

Use sensors with two separate switches or relay contacts; one for Alarm and one for Tamper. Each contact should be connected to a different E.O.L. resistor. The Eye-Spy II sensors include the EOL resistors on board, provide fast and convenient wiring, refer to figure 1A.

Alarm contacts connected in series with a 2.2K resistor; tamper contacts with a 4.7K resistor. Both resistors are supplied with each system.

For Double-Pole wiring, connect the two resistors (use the ALARM 'C' and 'NC' contacts) to Alarm and Tamper as shown in the following drawing:

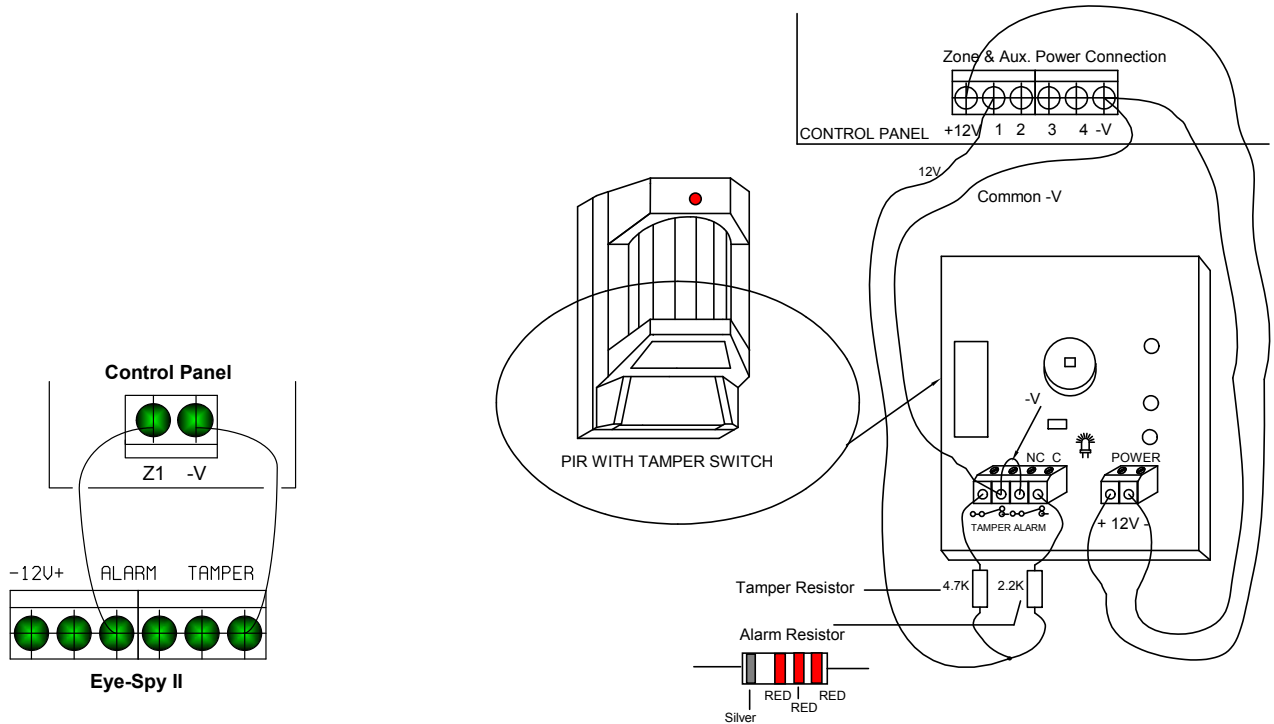


Figure 1A: EYS II connected to Series 2000

Figure 1: Double-Pole wiring drawing

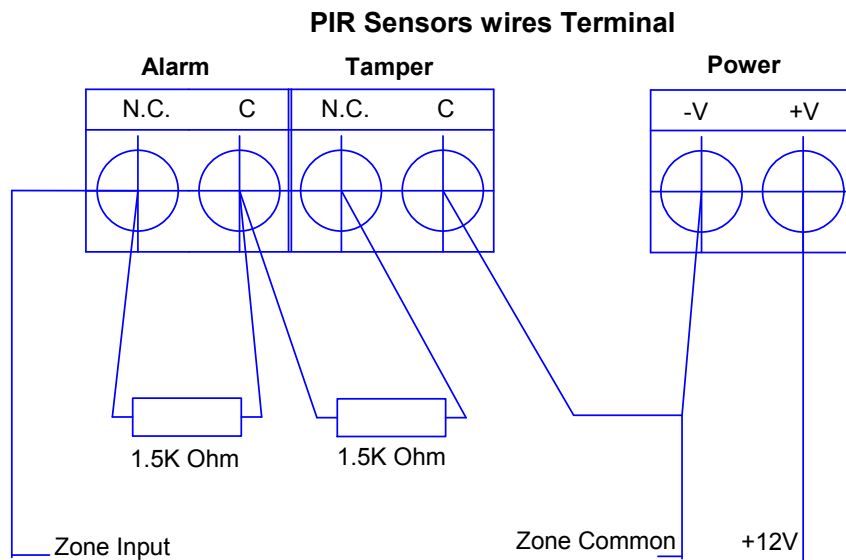


Figure 1A: European Double-Pole wiring drawing

Some countries are used to different double-pole wiring as shown in figure 1A. For this wiring please follow the drawing below. This wiring way requires 1.5K resistors (1.5K resistors not supplied).

1.3 □ Keypad Wiring

Up to three AV-701TS/TI, five AV-702, or five AV-707/706 Keypads can be connected to AV-2005/8 Control Panels. AV-707, AV-706 operates only with 'PRO' suffix panels.

LCD keypad (AV-707, AV-706) cannot be connected in same system with AV-701 or AV-702.

When using few keypads connect them in parallel (figure 2A). Don't connect the keypad under power. Each keypad contains four wires:

- Red** ➤ (+) Power, connect to + Aux. Power
- Orange** ➤ System Data, connect to OR
- Black** ➤ (-) Power, connect to - Aux. Power
- Yellow** ➤ System Strobe, connect to YE

For proper connection, refer to wiring diagrams, figures 2 and 9 (9 is at the end of the manual).

IMPORTANT! Never run Keypad wires alongside telephone wires, high voltage wires, or transmitting antennae. Separate keypad wires, not run in same cable with other devices (telephone, sensors etc.). Do not use the keypad wires for supplying power to sensors or other devices. Keypads have no polarity protection; verify the 12V power polarity carefully during wiring.

- Wire length for each AV-701 Keypad should not exceed 100 meters, if AV-702 is used, maximum recommended wiring length is 200 meters (when using 0.5 mm² wires).
- If installation requires keypad wire length for more than 100 meters, or more than five keypads:
 1. Add a 470 ohm resistor between +12V and YE terminal in the control panel
 2. Use two wires for the minus (-V) that supplies the keypad power
- Maximum wiring length for the AV-707 Keypad is 200 meters (when using 0.5 mm² wires)
- Keypad voltage (measured on keypad's wire terminal) should be 11.5 DC Volts minimum

Note: When a non-blinking '8' is displayed and keys are not responding, it means that the keypad is not communicating with the panel. Check wiring. Polarity error blows the panel fuse.

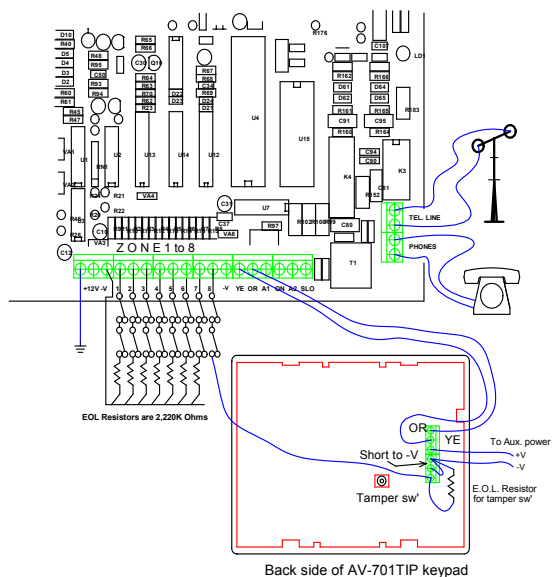


Figure 2: Wiring of keypad AV-701TIP (with Tamper)

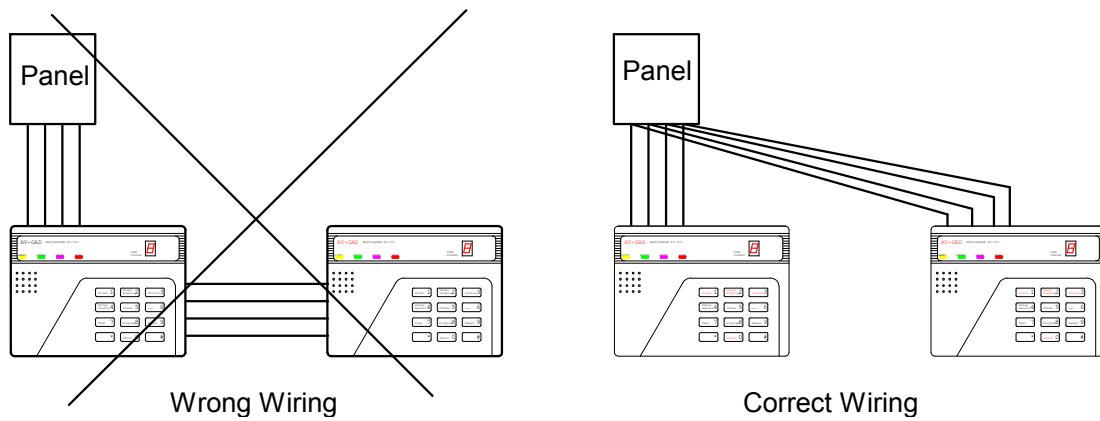


Figure 2A: Best Keypad Wiring

For trouble free system follow the recommended wiring of few keypads, as show in figure 2A, wire each keypad to the panel directly, prevent wiring running from one keypad to next.

Keypad Tamper Switch

The AV-701TIP, AV-702TP, AV-706/707TP keypads (keypad with tamper switch) contains a Tamper switch that is activated upon removing keypad's front part. Connect the Tamper switch to Tamper, Day or 24H zone. For connection, refer to keypad's wiring diagram, figure 2.

2. ALARM OUTPUTS

2.1 ☐ Sirens

- The control panel contains two siren/bell outputs, individually protected by a fuse.
- It's recommended to use the same type of siren or bell for both internal and external sounders.
- Siren mode is default-set at factory. In Siren mode, install speaker-type sirens, which DO NOT contain sound driver or electronic modules. In Bell mode install a 12V DC sounder.
Note: "3 siren beeps on disarm" (073-6) is not working in "Bell" mode (072-1).
- Consider using one internal and one external siren/bell. As Siren, use speaker siren type with a minimum power of 15W, and 8 Ohms impedance.
Enclose the outdoor siren in a metal housing, with Tamper switch for protection.
- The alarm from the Siren differs according to the type of zone: 24H, Fire, Burglary (not in Bell Mode).
- '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.
- In Bell mode, connect **only** Bell or Siren with a 12V sound driver or electronic modules.
Piezo Sirens operating in the 12-20V DC range, are most recommended as Bell.
- Self-contained Bell mode is programmable (address 073). Self-contained Bell mode provides connection of Bells or Sirens that require 12V at ideal and 0V during alarm.
Starting version 2.17 siren voltage selector added, located in the upper-left side on the PCB. By default set to drive 13.6V, fits siren and bell rated at 12V DC.

Warning!

Output power for each Bell should not exceed 0.65A (total Bell output is 1.3A).

- Contact manufacturer's consultant before connecting higher power loads.
- To connect self-contained sirens, Bells, and inner-oscillating sirens, refer to address 072, 073, subject 'Bell mode'.

2.2 ☐ Siren Connections

- *EasyLoader* control panels enable driving of two separate speaker sirens or Bells
- Speaker siren issues a multiple-tone alarm
- The outdoor siren is enclosed in a metal box, with a Tamper Switch protection
- Protect siren or bell box with a tamper-switch, connected to a 24H zone

2.3 □ Relay Module

The Relay Module enables connection of *EasyLoader* panels to most high current Bell types: Self-contained internal battery Bells or Sirens (the term ‘Bell’ will apply to both Bells and Sirens).

The Relay Module is triggered via the siren output of the control panel. The power which drives the Bell may be supplied either from the Aux. Power of the control panel or from an external power supply in case the Bell requires higher current than the 0.6A already supplied by the control panel.

The Relay Module fits directly on the top the board, with the same screws that hold the main board. Wiring information included with each Relay Module.

2.4 □ Remote Indication

Remote indications float while not alarmed and sink to -V during alarm, unless you program differently.

Terminal Indication	Application
ON	(-V) on closing (Arming). Optional: Drives SVM-40 voice module
A1	Programmable. (-V) during alarm from the programmed zone
SLO	Programmable. (-V) during alarm from the programmed zone SLO is reset only upon disarming. The SLO is a non-timed output Use the SLO output to drive a low current Strobe Light (Xenon) that consumes up to 300 mA

Warning: The remote indications are capable of driving maximum 300 mA. Overloading or applying +12V to the remote indications is dangerous and not assured. Take care!

Beginning with version 2.08, a new feature enables programming the listed outputs to supply float output (0V) during alarm and -V at ideal. Refer to address 073-8.

In case other features are selected for the same output, this feature is not applicable.

When a relay is connected to the remote indication, a diode must be connected to the relay coil in reserve polarity to the supplied voltage, or purchase AV-01/02 relay module. For LED driving, connect a 2.2K resistor in series.

Hardware Tests for Outputs (from version 2.17)

This feature enables testing of devices connected to the remote indications.

In programming mode, using 200 + commands (30, 31,...):

ON output; 30 – ON, 31 - OFF

A1 output; 32 – ON, 33 - OFF

SLO output; 34 – ON, 35 - OFF

3. WIRING AND POWERING UP

3.1 □ Grounding – Lightning Protection

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

System grounding is compulsory. For trouble free system, use a good ground.

Connect the Grounding wire to main board and to the metal box.

Note: Connect the Ground wire to the terminal marked $\overline{\perp}$. This is not a Minus (-V).

Beware of static discharge; before handling the main board touch a grounded metal.

Before grounding the system, verify that the ground is properly connected and does not transfer high voltages. If ground is not available, run a ground wire and connect to a cold water pipe as close as possible to earth.

3.2 □ Back Up Battery

Verify that Battery is in the correct polarity! Prevent long AC failures!

- Red wire is the positive pole (+). Black wire is the negative pole (-).
- Verify that your step-down transformer supplies 16V AC, higher voltage will cause over-heating.
- The battery provides power back up in case of AC power failure.
- Connect back-up battery to ensure proper operation of the system.
- Recommended battery: 6.0 to 7.2 Amperes per Hour (AH), 12V SLA (Sealed Lead Acid) type.
- A 7.2 AH battery provides back up power to control panel and a single keypad for approximately 10 hours.
- Panel accommodates a battery of up to 12V - 7.2 AH (max.).
- A 2.5A electronic fuse protects the battery.

Prevent full battery discharge; in case of long main AC fail disconnect the battery. Instruct user not to disconnect AC when living premises for long journeys or other occasions.

3.3 ☐ Before Powering Up

- Place the control panel in a dry and well-ventilated location, as far as possible from any heat sources.
- High power RF transmitters should be placed at least 2 meters away from the control panel.
- Check for proper grounding. Uncharged your body by touching the Ground terminal.
- Make sure polarity of detectors, keypads and other devices are correct.
- Connect a momentary voltage to the siren; making sure a ‘beep’ is heard. If no beep, check for short circuit or improperly connected wires.
- Connect AC power to initial Power Up (transformer only). Connect battery only after keypad and sensors seem to be operating properly. (Do not Power-up with battery alone.) Verify power polarity of keypads.
- Do not connect any devices to the battery terminals.
- Series 860: Use only Fast Blow type fuse, size 20 x 5 mm, current 1.25A (supplied).

3.4 ☐ Connecting Smoke Detectors

The *EasyLoader* Series accommodate Ionization or Optical type 12V Smoke Detectors. Up to five smoke detectors may be connected to each zone. Note: Most smokes output is Open Collector type; program the Smoke zone as Fire and Normally Open zone type.

- Panels are compatible with 12V smoke detectors with open collector or relay (-) output on alarm.
- Smoke detector is reset by programming the SLO output to drive -V while holding-down key 9 (a momentary switch or relay that disconnects power to smoke detector after a smoke alarm). Refer to smoke wiring diagram.

When Fire Alarm occurs; hold-down key ‘9’ for reset, then enter valid code to disable alarm.

For connecting Smoke detector and EOL resistor, use a N.C. (normally close) smoke.

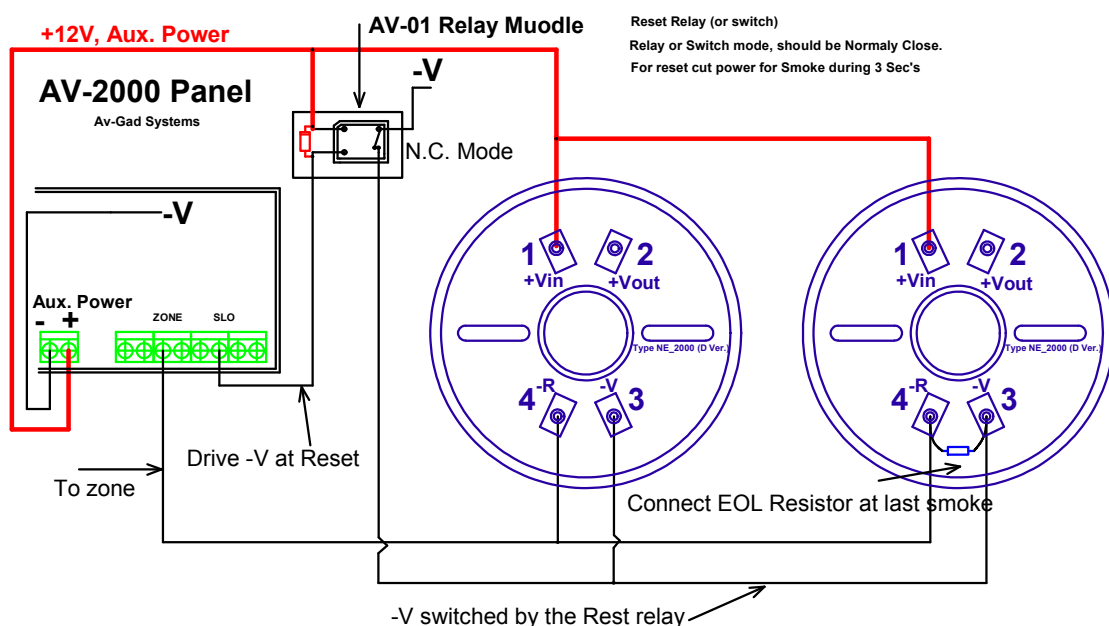


Figure 4: Smoke Detectors (NE-2000) Wiring

3.5 □ Telephone System (dialer) Dialing and Wiring

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. Don't connect fax or answering machine in parallel on the same telephone line.

In case of alarm, the dialer will dial to the programmed numbers, siren sound or voice message (if SVM-40 connected) will be transmitted to the telephone. For further details, refer to dialer & communicator chapter 2.9. Voice module types SVM-40/60 are compatible with AV-2005/8 *EasyLoader* panels. The voice module will apply spoken message over the telephone upon alarm.

Default dialing mode is DTMF. If Pulse dial is selected, the default is European Make/Break rate of 40/60 milliseconds (in Pulse dialing). The Make/Break rate is programmable.

Dialing mode is programmable (refer to programming sheet addresses 088 and 089).

Connect the telephone line to 'TEL-LINE' terminal, if handsets connected to same line connect them to 'PHONES', when system attempt to dial the 'PHONES' is disconnected. Do not connect to ISDN or other digital telephone system. Most ISDN converters have an Analog line; the Analog line of the ISDN can be connected to the TEL-LINE terminal. Option: To protect the telephone line add the Tele-Spy. The Tele-Spy it is a 24H telephone line monitor separate module. Starting version 2.17, a software Dial Tone telephone monitor is included, refer to address 094, 051 options 5,6.

Note: To perform telephone line test enable Dial Tone detection at address 083.

For AUSTEL installations: At address 074 enter 8, at address 087 enter 2 (maximum), don't connect any phones in parallel with TEL-LINE terminal. Dialing problems may occur when system telephone line is connected to Telstra Duet system or similar.

Software Telephone Line Test, 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.

3.6 □ SVM – Voice module

The *SVM-40* and *SVM-60* (replaces the *SVM-24*) speech modules allow the recording and playback of two messages, with optional playback through an external speaker (not included). *SVM-40* message duration is 40 seconds; *SVM-60* message duration is 60 seconds. The SVM contains an on board microphone.

The *SVM* is a high technology device, electronically stores messages with or without power.

The *SVM* is as a digital message source in Series 2000 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 2000 Alarm Control Panels, program the SVM option (at programming table 072-7, 074-1). Follow the wiring procedures (included in SVM manual) simulate alarm, the panel will dial first the Communicator telephone number (telephone number 2 and 3), then to other programmed numbers. After dialing, the panel will trig the SVM to send the recorded message. If address 071 (1) is programmed (default) Tel. 1 is erased within arming and disarming.

3.7 Remote Key and Wireless Arming & Disarming

- *EasyLoader* Series enables Arming/Disarming by remote momentary or latch key-switch (as programmed in address 071), which is connected to terminals 'KE' and '- Aux. Power.'
- When using remote key-switch, wire length should not exceed 10 meters.
- Momentary or Latch pulse (programmable) between 'KEY' and '-V' terminals will Arm and Disarm the control panel. (Prior to arming, the 'instant' and '24H' zones should be closed.)
- 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. Arming via key is indicated as event in history log.
- For fully compatible trouble-free operation, AV-GAD's A11RX or A22RX wireless sets are recommended. Programmable option: Arm with wireless with automatic Group bypass.

3.8 Auto Arming

Auto Arming provides automatic arming at pre-programmed time.

Setting the time for Automatic Arming:

- **By Installer:** Program (or display) hours and minutes at address 016.

- **By User:** Enter to user-programming mode. Hold down '8', 'A' is displayed; type hour and minutes in 24 hours format. To display, hold down '8' and wait.

To disable Automatic Arming program 0000.

After Automatic Arming is programmed, the system time can be set only via User Programming Mode: Enter User Programming Mode (hold-down 8 and 1234), hold down '1' ('t' is displayed) and type hour and minutes. Hold down '1' and wait for the time to be displayed. Holding down keys '0'+ '1' to program the time is possible only if the Automatic Arming is disabled (otherwise an 'Error' warning is displayed).

Automatic Arming will not operate if the time has not been set (blinking 'h'). Automatic Arming will not operate if the control panel is already armed.

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, the Automatic Arming can be aborted by entering a valid user code (not code No. 7, if used to 'open' a door).

With PRO systems (in user programming mode):

To set systems clock when Auto Arming enabled: Press 20 and enter the time in 24H format, confirm with #. Press 20 and # to display the system clock.

To set Auto Arming Time: Press 21 and enter the time in 24H format, confirm with #. Press 21 and # to display the Auto Arming time.

3.9 □ Arming Multiple Alarm Panels

It's possible to use more than one control panel in a system. You may arm and disarm multiple panels by using the "key" terminal (via a suitable set of contacts). You **cannot** parallel keypads from two panels to allow simultaneous operation from all keypad(s), it is not possible to connect the (strobe or data) terminals together. It is possible to connect many keypads to one panel as the panel itself polls the (strobe) line to synchronize the keypads and interchanges data on the (data) line. Attempting to parallel (strobe or data) lines cause chaos non-operation and alarms!

For similar application, refer to Av-Gad AV-2016P control panel that supports eight partitions, provides to arm and disarm each partition separately.

SECTION III: AV-701/702 DIGITAL KEYPAD

1.1 □ Keypad Functions

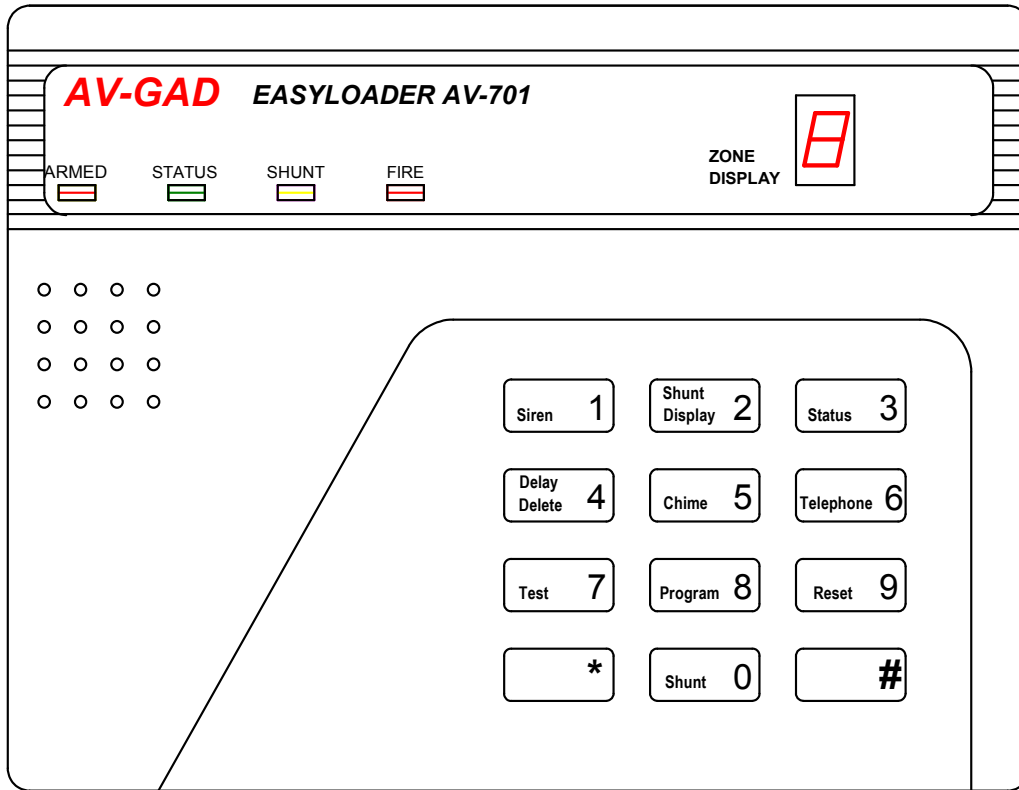


Figure 5: AV-701 Keypad Layout

Common Terms in this Manual

- ‘SHUNT’ and ‘BYPASS’ are interchangeable terms
- Program Mode - Enables feature programming, ‘P’ is displayed, and alarm is disabled
- Use Mode – System is disarmed and not in alarm or program mode
- AV-701, AV-701TS, AV-701TI or AV-702 are identical
- Most keypad functions described in this section are identical when used LCD type keypad, unless code entry. For code entry with LCD keypad press # (enter) to confirm

Note: The hold-down functions are similar when using PRO systems interfaced with AV-706/7.

- Ordinary keypad functions are accessed by pressing keys (short press). The keys (1 to 0) are used for Arming/Disarming (ON/OFF), Zone Shunt (Bypass), and other programming functions.
- Key entry is confirmed by a short beep.

Short keypad entry accesses the following special functions as described below:

Chime 5 Press key ‘5’ for Instant Arming (requires programming).

Shunt 0 Zone Bypass, by pressing key ‘0,’ followed by entering the Zone number.

Shunt 0 Bypass Zone Via Code (requires programming, see address 071).

Keypad Main Operations

Function	Keypad Operation	LED's	Buzzer	Display
Siren Test	Siren 1 Hold-Down	ARMED <input type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input type="checkbox"/> FIRE <input type="checkbox"/>	Long Beep	
Display bypassed zones	Shunt Display 2 Hold-Down	ARMED <input type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input checked="" type="checkbox"/> FIRE <input type="checkbox"/>	Long Beep	1 2
Display troubled zones	Status 3 Hold-Down		Long Beep	1 2
Delays Delete	Delay Delete 4 Hold-Down	ARMED <input type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input type="checkbox"/> FIRE <input type="checkbox"/>	Long Beep	D
Chime On and Off	Chime 5 Hold-Down	ARMED <input type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input type="checkbox"/> FIRE <input type="checkbox"/>	Long Beep	C
Follow Me Tel. Display	Telephone 6 Hold-Down	ARMED <input type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input type="checkbox"/> FIRE <input type="checkbox"/>	Long Beep	C
Follow Me Tel. Programming	Telephone 6 Telephone 6 Hold-Down	ARMED <input type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input checked="" type="checkbox"/> FIRE <input checked="" type="checkbox"/>	Long Beep	C
Enable Answer Now Mode	Telephone 6 Siren 1 Hold-Down		Long Beep	A
Test Zone (close all zones)	Test 7 Hold-Down		Long Beep	T
Enter to Installer Program	Program 8 Hold-Down & 1994	ARMED <input type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input checked="" type="checkbox"/> FIRE <input checked="" type="checkbox"/>	Long Beep	P
Enter to Program User code	Program 8 Hold-Down & 1234	ARMED <input checked="" type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input type="checkbox"/> FIRE <input type="checkbox"/>	Long Beep	u
Reset	Reset 9 Hold-Down		Long Beep	
Short events log history	Shunt 0 Hold-Down		Long Beep	1 0
Time setting	Shunt 0 Siren 1 Hold-Down	ARMED <input type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input type="checkbox"/> FIRE <input type="checkbox"/>	Long Beep	TIME
Date setting	Shunt 0 Shunt Display 2 Hold-Down	ARMED <input type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input type="checkbox"/> FIRE <input type="checkbox"/>	Long Beep	DATE
Panic – Hold-down both keys	* Keypad Panic #	ARMED <input checked="" type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input type="checkbox"/> FIRE <input type="checkbox"/>	Long Beep	H
Bypass zone 3 (example)	Shunt 0 & Status 3	ARMED <input type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input checked="" type="checkbox"/> FIRE <input type="checkbox"/>	Long Beep	3
Group bypass (home mode)	Shunt 0 & Shunt 0	ARMED <input type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input checked="" type="checkbox"/> FIRE <input type="checkbox"/>	Long Beep	h
Codes Restore (at power-up)	* Keypad Panic #		2 Beeps	
Arming with Low Battery	Siren 1 Shunt Display 2 Status 3 Delay Delete 4	ARMED <input type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input type="checkbox"/> FIRE <input type="checkbox"/>	3 Beeps	L
Arming with troubled zone	Siren 1 Shunt Display 2 Status 3 Delay Delete 4	ARMED <input type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input type="checkbox"/> FIRE <input type="checkbox"/>	5 Beeps	≡
System Arming	Siren 1 Shunt Display 2 Status 3 Delay Delete 4	ARMED <input checked="" type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input type="checkbox"/> FIRE <input type="checkbox"/>	1 Beep	
System Disarming	Siren 1 Shunt Display 2 Status 3 Delay Delete 4	ARMED <input type="checkbox"/> STATUS <input checked="" type="checkbox"/> SHUNT <input type="checkbox"/> FIRE <input type="checkbox"/>	3 Beeps	

Zone bypass via code: Press keys ‘0’, while the four LEDs are blinking enter valid user code. When only the 2 left-most LEDs are still blinking, enter the zone number(s) to be bypassed; LEDs will stop blinking and ‘Shunt’ LED remains on to confirm zone bypass. Note: This entire operation should be completed within 20 seconds, or Group Bypass will be voided. **This feature is not valid with PRO version.**

Shunt 0 then hold-down Siren 1 or Shunt Display 2. **Group Bypass with Arming.** Starting version 2.17 2nd Group Bypass added, (address 034) and the procedure enhanced; after selecting the Group Bypass, system is armed (without code entry). To bypass 1st group: Press “0” and hold-down “1”, to bypass 2nd group press ”0” and hold-down “2”, to bypass both groups press “0” and hold-down “0”. Yellow LED will flash; ‘h’ (Home) will be displayed for 1 second in confirmation, then the Armed LED lights-up in confirmation.

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

Shunt LED stops blinking 8 seconds after Arming, (prevents LED light from disturbing sleepers near the keypad).

- There is no exit/entry delay-warning sounder; also, the keys beep disabled (prevents noise considering sleepers). At Group Bypass mode the keys entry are not causing beeps.
- There is no "beep" at the keypad until an alarm occurs, or until Group Bypass is canceled.
- When the keypad LEDs turns off after Arming (requires programming), touching the keypad will activate the LEDs for 5 seconds.

When PRO panel used with AV-707B (with extra three buttons) press * then hold-down 'A' or 'B' or 'C'. A represents group 1, B represents group 2 and C both groups.

Group Bypass with code (requires programming): Press key '0.' While four LEDs are blinking, enter valid user code. When only 2 left-most LEDs are blinking, press '0' key again, 'h' will be displayed and 'Shunt' LED will remain blinking to confirm Group Bypass. Enter your user code to Arm system. Note: complete this operation within 20 seconds, or Group Bypass will be voided. **This feature is not valid with PRO version.**

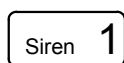
Group Bypass (HOME) Improved Operation Mode

- A. If Group Bypass selected (by pressing 0 and 0) the Shunt LED stops blinking 8 seconds after arming. This will prevent the LED light from disturbing sleepers near the keypad.
- B. There is no exit/entry delay-warning sounder at the keypad.
- C. There is no 'beep' at the keypad until an alarm occurs or until cancel of Group Bypass.
- D. When the keypad LEDs turns off after Arming (requires programming), touching the keypad will activate LEDs for 5 seconds.

1.2 Hold-Down Functions

- Holding down the key for approximately 2 seconds gives access to hold-down functions.
- Hold down functions is confirmed by a prolonged beep.

Hold-Down Functions:

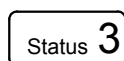


Key 1 → SIREN TEST



Key 2 → SHUNT DISPLAY

Displays shunted zone(s).



Key 3 → STATUS DISPLAY

Displays troubled or malfunctioning zone(s).

Delay Delete **4**

Key 4 → DELAY DELETE (INSTANT PROTECTION)

Cancels Entry Delay in zones selected as ‘Delayed’ zones. All zones become Instant. ‘d’ 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 zone troubled (open). 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 Keypad	Via AV-701 Series Keypad
Displays Programmed Follow Me Telephone Numbers Without Dialing	Hold-down key ‘6’	Hold-down key ‘6’
Follow Me telephone number programming	Hold-down ‘6’ then hold-down ‘6’ again	Hold-down ‘6’ then hold-down ‘6’ again
Programmed Telephone number Verification (Display and Dial the telephone numbers)	Hold-down ‘6’ then hold-down ‘7’ ‘Dialer Test’ displayed	Hold-down ‘6’ then hold-down ‘7’

Display programmed telephone numbers without dialing: Within a few seconds, ‘c’ will appear on the display, followed by the (programmed) ‘Follow Me’ telephone number.

When programming telephone numbers which require a delay for line selecting (‘Pause’) before dialing, or for other purposes, Hold-Down key ‘0’; a momentary ‘P’ will be displayed (the Pause delay duration is 3 seconds).

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

Telephone **6**

Siren **1**

then Address 092 enables ‘Answer now’ feature (answers remote computer after one ring). The user attending the control panel can reduce the number of rings before Modem answer to one ring.

Answer Now is useful when control panel is programmed not to answer incoming calls (programming of 21 rings or greater at address 091), or for installation with fax or answering machine on same telephone line with the alarm panel. To enable the ‘Answer Now’ feature, program 01 at address 092. User should hold-down key 6 and then key 1, before the call is made to the control panel. The panel will acknowledge the command with two beeps and ‘A.’ is displayed.

The feature remains active for 5 minutes after entered, enabling programmer (at remote computer) to enter the panel. To disable Answer Now hold-down key '6' then hold-down key '0'.

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.
- Enter to Fault Find mode during the 15 seconds following system Disarm or Program mode
- Fire, 24H, or Panic alarm will stop Fault Find mode.
- Hold down key 7, confirmed by 'F' on Keypad display.
- Open and close each zone to test. Detection of zone opening is confirmed by a one-second beep. 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 (code changing).

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 A1 for resetting the Smoke Detector (requires programming)
4. Resets Day Zone Alarm at Keypad
5. Exits Programming mode (features, telephone numbers, etc.)

Key Zero Hold-Down functions

To quit zero hold-down functions, hold-down '9'

1. **Shunt 0** Key zero. **Concise Alarm History**. To display the last alarm events hold-down key '0'. New alarm will create a new history instead of the old one.

2. **Shunt 0** then **Shunt 0** **Detailed Events History (requires programming)**: Hold down key '0' and again hold-down key '0' to display up to 99 events, including: System opening and closing by user number, opening or closing time, zone-caused alarm and AC fail.

By holding-down key **Shunt 0** twice, 3 LEDs start to blink, indicating a special operation mode. The events are displayed from the most recent to the oldest event. To erase both detailed and short history; at program mode press 200 then 04.

Events at AV-701/2 keypad are displayed as following:

XX - Event number (from 01 to 99), then HH_MM (Hour and Minutes) Event Time, Event (alarm or opening/closing).

Translate the display as following:

'u' (user number 1 to 8),

'o' or 'c' - opening or closing

Zone causing alarm will blink twice

tX - Tamper alarm from zone causing the alarm (X)

H - Panic Alarm

Events at AV-701/2 keypad and computer events log displayed as following:

'CE' - Communication to central station failure

'PE' - Keypad locked because Password Error

'Lb' - Low battery

'CC' - Telephone line fault

Note: Three lines (≡) indicate power fail. During history events AC power fail is displayed.

For example:

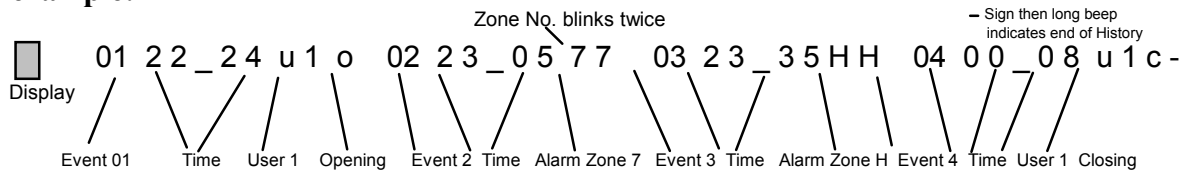


Figure 6: Alarm Events as Displayed on keypad

During zone number display, keypad display blinks twice to indicate the zone number.

Browsing through Events History

Keys used for browsing:

-  ➤ Skip forward to next event
-  ➤ Skip backward to previous event
-  ➤ Display current event again
-  ➤ Cancel History Event Mode and exit

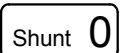
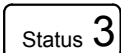
Upon display of last event, if an attempt is made to move forward (key 2), a blank sign – is displayed, along with a warning beep indicating that it is the last event. Key 8 may be pressed to move backward. If no key is pressed, Event History stops and system returns to Use mode.

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 display, browsing system will respond only to alarm or panic. Arming is denied.

Alarm or Panic during History Events display will quit this mode and system will set to Use Mode (normal operation mode). Clearer History events are available when using the download.

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

3.  then  **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 the old one.

4. **Shunt 0** then **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 power-up system, time is reset to 00:00, 'h' will be displayed to remind user to set time; 'h' will disappear after new time is set. If Auto-Arming selected time setting is possible only in 'User Programming Mode', refer to paragraph 3.7.

5. **Shunt 0** then **Shunt Display 2** **Display and Setting of System Date:** Hold down key '0' and then hold-down key '2'; three LEDs are blinking. 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; date must be adjusted after long power-fail.

Years 78 through 99 translated as 1978 to 1999

Years 00 through 77 translated as 2000 to 2077

6. **Shunt 0** then **Delay Delete 4** **Reset Events Memory (history):** Hold down key '0' and then hold down key '4' to erase all events from memory.

Starting version 2.09: History log cannot be cleared by the user (former command "0" + "4").

Instead, it can be cleared during the installer-programming mode by command 200+04.

7. **Shunt 0** then **Chime 5** **Display Last 2 Users:** Hold down key '0' and then hold down key 5 to display user number and System opening or closing time.

'o' is displayed for Opening (Disarming); 'c' is displayed for Closing (Arming).

8. Press **Shunt 0** (not hold-down) and press **Reset 9** (not hold-down), 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 key [0], [6] and [7],
Hold-Down key 9 (Reset)**

1.3 □ AV-2008 Golden; Access via Code

(Version 2.09 include extra notes on separate cover)

The AV-2008 Golden is designed to meet current European Standards. Enables system operation (all keypad functions) only by authorized person with system code, and monitors the battery to ensure that battery will not discharged completely if AC fails. This feature also eliminates system malfunction due to low voltage at the processing unit.

Keypad Access by USER CODE

To activate the keypad, entire a valid user code. After a valid code entered, the keypad operation and functions are active. Typing the code will give the user a lapse of time to access to all control panel functions (long beep is heard).

If the system does not detect any activity during 30 seconds, the time window will close and the keypad will 'shut down.'

While the keypad is 'inactive,' the LEDs and display are turned OFF.

To regain access to the system functions, re-enter the user code.

AV-2008 Golden type: Entering the user codes while the keypad is 'shut down' won't arm/disarm the control panel! This operation will only 'wake up' the keypad!

Exceptions

The keypad will not shut down in the following situations:

Programming mode

Fault Find mode

The keypad will stay operative 30 seconds after:

- Exit delay
- Long displays (detailed history, telephone number)
- Completion of the dialer testing

The keypad will wake up when an alarm occurs, and will shut down 30 seconds after the alarm time (siren) ends.

Keypad is in 'Shut Down' mode: a warning display of 'Low Battery,' 'Tampering' and 'Power Failure' will be visible.

At Power-Up, the keypad is active for about 20 seconds and then shuts down automatically.

By using the mechanical KEY input (arming and disarming), this will wake up the keypad for 30 seconds (enough time to enter a valid user code).

Arming the AV-2008 Golden control panel

Arming the system is possible only if the last events (short history) have been erased.

To erase only the short history (and keep the detailed history in memory) a NEW command is available:

'0' + '2' erases the short history only ('0' + '4' erases both 'histories' - short and detailed.)

When the user attempts to ARM the panel, but the short history is still in memory, he gets a warning on the display: '≡' then 'h' (three horizontal lines and 'h')

Arming the panel by key erases the short history, thus enabling the arming (for the panels with defective keypad!)

Points to Remember

While the LEDs are OFF the keypad is shut down! (During power failure, three LEDs will blink, but go off if keypad is touched).

During the ALARM TIME and EXIT DELAY, the keypad is active. Entering the user code will DISARM the system.

For control panels with communicator and AMBUSH feature enabled (forced opening - requires programming): Regardless of keypad status, entering the 'reversed' user code will DISARM the system and send the event (forced opening) to the central station.

Door Access code

If code 7 is used to activate 'SLO output for door opening,' typing code 7 will activate the SLO output, but will not 'wake up' the keypad.

**Typing six erroneous codes will lock the keypad keys for 30 seconds (this is not a new feature!).
When keypad is locked, entries are not acknowledged.**

1.4 Sounder

The Keypad sounder enhances the use of system operation and acts as a local alarm device (programmed by default). The sounder emits sounds as described:

OPERATION	SOUNDER RESPONSE
◆ Pressing any key	Short confirmation beep
◆ Hold-down functions	Long confirmation beep
◆ Faulty programming input	Long beep (+ 'E' display)
◆ Delayed Zone triggering	3 long beeps
◆ Exit delay starting (if programmed)	Warning beeps until the delay is over
◆ Completion of Arm/Disarm and programming code	One long confirmation beep
◆ Programming Telephone numbers	Two confirmation beeps
◆ Completion of programming address	Two confirmation beeps
◆ Pressing 'Code 7' for driving door opening	Seven confirmation beeps

◆ Arming of System with Instant 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

1.5 □ LED Indicators

Four keypad LEDs provide visual indication of System status, as well as confirmation of various modes.

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

○ **Green STATUS Indicator** - Blinks when zone/s is/are troubled, remains lit as long as zones are not troubled, 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 upon Group Bypass entry (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 2 left-most LEDs blinking indicate 24H-alarm mode. Zone number will also be displayed.

○○○ **Three LEDs Flashing** - In Disarmed mode, rapid blinking indicates AC power failure. AC power fail event is displayed in Events History as three lines ≡. Starting version 2.11 the LEDs will blink for six seconds every minute (to save energy).

In Armed mode, rapid blinking indicates system restored after AC Power Failure mode.

During programming Follow-Me Telephone Number via AV-701 Keypad, three flashing LEDs indicate that a new telephone number may be programmed.

○○○○ **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.)

1.6 □ Keypad Digital Display (7-segment type)

The 7-segment display provides visual readout of system status. The display indicates zones in alarm, troubled zones, bypassed zones, and also displays the following confirmation letters:

Display	Description	Function
A	<i>Up & Download</i>	Modem 'Answer Now' function selected. Confirms after holding-down key 6 then key 1. 'A' also displayed upon Auto-Arming programming
C	<i>Communication</i>	Tests dialer, and displays telephone numbers upon holding-down key 6
C	<i>Communication</i>	C flashing in display indicates telephone line trouble
c	<i>Chime</i>	Upon entering Chime mode via key 5, 'c' confirms Chime mode
c	<i>Closing</i>	Indicates closing of the system (Arming) followed by user number when events log is displayed
d	<i>Delay Delete</i>	Upon holding-down key 4, to operate Delay Delete of delayed and follower zones
P	<i>Dial Delay</i>	When programming a telephone number that requires an inter-digit delay ('Pause') during dialing. (Delay duration is 2 seconds)
E	<i>Error</i>	Indicates programming error
h	<i>Home</i>	Indicates entering of Group Bypass
h	<i>Hour</i>	Displayed after power-up to remind installer to set the system time: 'h' will be removed after time setting (using keys 0 and 1)
H	<i>Hold-Up</i>	Upon Panic triggering from Keypad, or Panic zone alarm
o	<i>Opening</i>	Indicates system opening (Disarming). Followed by user number when events log is displayed
L	<i>Low Battery</i>	Low battery indication upon system arming, or during Disarmed mode
P	<i>Program</i>	System is in programming mode
t	<i>Tamper</i>	Indicates zone's Tamper alarm
U	<i>Update</i>	Confirms programming updating
u	<i>User</i>	'u' (user) followed by user number when events log is displayed and system is in user code programming mode
≡	<i>Arming Denied</i> or <i>AC Fail</i>	≡ Displayed upon Arming attempt with non-delayed (instant) zones in trouble.

1.7 □ Arming and Disarming

1. Make sure that all burglary zones are closed. Delayed zone can remain open prior to arming.
2. The green Status LED indicator is not blinking while all zones are closed.
3. Green indicator will blink when a zone is troubled. Hold-down key 3 for troubled zone display. An open delayed zone (exit zone) will also cause indicator to blink.
≡ (3 lines) indicated at arming of system if instant zones or 24-Hour zones are troubled (blinking Green LED indicator followed by ≡ in display and 5 warning beeps); open zones will then be displayed.
4. To bypass a zone, press key 0 (Bypass Key), followed by the number of the zone.
To bypass a pre-programmed group of zones (requires programming), press 0 twice (short press).
A bypassed zone will not cause alarm if troubled.
5. **Arming:** Enter the Arm/Disarm code (No. 1 default code is 1,2,3,4), the Red Armed indicator will light up. If any zone (not Delayed or Follower) is troubled, ≡ will be displayed and system will remain Disarmed.
System Arming is disabled if any Instant zone is troubled.
6. **For Instant Arming**, press key 5 (if previously programmed). See address 071.
Red 'Armed' indicator should light up. The system is now armed.
7. **Disarming:** you may have to hold-down key 9 (reset) to clear any previous key presses, and then enter arm/disarm code (or turn optional key-switch); the Red 'Armed' indicator will go off.
Alarm history will be displayed upon disarming. Enter Arming/Disarming code to stop 24H alarm during Disarm mode.
8. **Keypad Keys self-locking:** In Armed and Disarmed mode, after 6 attempts to enter fault code, the keys will not react to any key press. This prevents code learning or other code break exigency. After a 30 second delay, the keys will revert to code entry mode. Each new erroneous code will lock system for another 30 seconds. Refer to Section III paragraph 3.6 for '**Remote Arming and Disarming**' and '**Auto-Arming.**' (Auto-Arming is available beginning with version 2.08).
9. **Ambush Disarming:** In the event that user is forced by an intruder to disarm the system, the Ambush alarm can be activated. Disarming the system with the Ambush code will cause the system to disarm and simultaneously send a silent ambush alarm signal to central Station. This is an optional feature. Ambush Disarming is enabled if communicator selected and the Forced Disarming code entered (refer to communicator codes programming table). If Contact ID selected, communicator code setting is not required; the communicator will send code 021.
10. Arming with automatic group bypass; refer to 3.10 paragraph. With AV-707B keypad the arming and group bypass (three groups) is possible by pressing one key.

SECTION IV: PROGRAMMING

1. SYSTEM CODES

Up to eight different Arming/Disarming 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* is programmed.

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

Do not use same codes or same first digit for different codes. For example if code No. 1 is 1234, do not program code No. 2 to be 1256.

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' is automatically replaced. For **setting default codes**, Power up by applying AC and battery and immediately hold-down keys

Press both together after 2nd beep, release keys. 'U' will be displayed 3 times in confirmation.

2. Code number 7 for access control (requires programming) - Arm/Disarm code No. 7 activates SLO (Selective Output), which is used for such functions as opening an electric lock.

Code number '7' is operative during both, ARM and DISARM modes, confirmed by 7 short beeps.

Code 7 drives the SLO output as 'Momentary' output.

Pulse duration is 5 seconds.

3. Code number 8 as Visitor Code (requires programming) - Arm/Disarm code No. 8 may be programmed as a 'one time code' (employees and one-time visitors). This code is valid for 30 seconds from Arming. After 30 seconds, the code is rendered invalid. Entering code 8 will delete zone bypasses, including auto-bypass.

4. Code number 9, Programming Code (Installer Code) - Code No. 9 enables entering the 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.

5. User Codes - (Arming/Disarming code). Each code consists of 1 to 6 digits. System provides eight user programmable codes.


6. 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 sounder is disabled at Group Bypass mode, or if selected by programming. Entry of code by user or installer is confirmed at keypad display. Display segments will light up clockwise, indicating the sequence of the digits entered.

7. Code Error - The keypad is locked after six unsuccessful trials to enter a valid code.

Typing six erroneous codes locks the keypad keys for 30 seconds

1.1 User Code Programming


Set New User-Code

1. Hold down key 
2. While 4 LEDs are blinking, enter code No. 1 (default 1234)
3. If code is valid, 4 LEDs will stop blinking, and 'u' will be displayed
4. The two left-most LEDs blink to indicate that the system is waiting for a new user code index (user 1 to 8) to be entered.
5. Enter the code index (1 for code No. 1; 2 for code No. 2, etc.). Starting V 2.09: User index will be displayed for 2 seconds, until he can press and enter further digits (eliminate confusing of index number and code)
6. The two right-most LEDs blink to indicate that system is waiting for a new code (1 to 6 digits).
If a user code is not entered, the code is voided.
7. Enter the new code; 'U' is displayed for confirmation.
8. To quit code setting hold-down key '9'.


Set new user-code in Installer program mode

1. While system is in program mode, enter address 099; 'u' will be displayed.
2. The two left-most LEDs blink to indicate that the system is waiting for a new user code index (user 1 to 8).
3. The two right-most LEDs blink to indicate that the system is waiting for a new code (1 to 6 digits).
Enter the new code.
4. Installer code (code no. 9) can only be set at Program Mode, index number '9'.
5. Upon completion of code setting, system reverts to Disarm mode.

Delete a user-code

1. Hold down key 
2. While 4 LEDs are blinking, enter code No. 1 (default 1234)
3. If code is valid, 4 LEDs will stop blinking, and 'u' will be displayed
4. The two left-most LEDs blink to indicate that the system is waiting for a new user code-index (1 to 8) to be entered
5. Enter the code index you want to delete (1 for code No. 1; 2 for code No. 2, etc.)
6. The two right-most LEDs blink to indicate that the system is waiting for a new code
If user code is not entered, the code is voided. A short beep confirms that code has been deleted
7. Hold-down key '9' to quit code setting

It is recommended not to use 5 or 0 as the 1st code digit

Instant Arming by key number  is a programmable feature that may cause erroneous Arming. It is recommended to *disable* this feature.

2. FEATURE PROGRAMMING AT INSTALLER LEVEL

2.1 □ Programming Sheet (version 2.17C)

For AV-2005 refers to zone 1 to 5 only. (Fits AV-2005, AV-2008, AV-2005/8 PRO)

Factory Default Program is as shown in table; Blank Square means no default program

① TELEPHONES

Tel. 1	Tel. 2	Tel. 3	Tel. 4
010	011	012	013

Tel. 1 is also the 'Follow Me'. Maximum 16 digits + 4 pauses
Tel. 2 and 3 are communicator option.

SIGNAL TEST & AUTO ARMING TIME

Test Time	Auto Arm Time
014	016
(00:01)	00:00

Test signal to central station (014). Codes are defined at Addresses: 072, 073, 237 & 255. Enter time in 24 hour format

To insert * in the phone number, program system to dial in DTMF, Hold-down keys # and * (as panic); 'A' will be displayed. For Pause during dialing, hold-down key '0'.

② ZONE FEATURES

Feature	Address	1	2	3	4	5	6	7	8
Fire zones	019								
Zone In Use	020	1	2	3	4	5	6	7	8
Entry/Exit Delay 1	021	1							
Entry/Exit Delay 2	022								
Entry / Exit Follower	023		2						
24-Hours Zone	024								
Day Zone	025								
Green Reset Zone	026	1	2	3	4	5	6	7	8
Swinger Shutdown	027								
Chime	028	1	2						
NON-EOL Resistor	029	1	2	3	4	5	6	7	8
Enable Zone Tamper	030								
Delayed Power-Up	031								
Fast Response	032								
Group Bypass # 1	033								
Group Bypass # 2 ¹	034								
Manual Bypass	035	1	2	3	4	5	6	7	8
Siren Out	036	1	2	3	4	5	6	7	8
Alarm 1 (A1) Output	037	1	2	3	4	5	6	7	8
Reserved	038								
SLO output (output 3) ²	039								
Dial on Alarm	040	1	2	3	4	5	6	7	8
Sounder on Alarm	041	1	2	3	4	5	6	7	8
Normally Open (N.O.)	042								
Panic Zone	045								

¹ Group Bypass # 2 – Available at PRO version 2.16 and latter. ² SLO is a non-timed output. SLO = Selective output. Address 043, 044 are applicable only with special Saturday (Shabbat) version.

Keypad Panic Alarm	050
Siren on Panic	1
Alarm 1 active on Panic	2
Reserved	3
SLO On Panic	(4)
Telephone Report	(5)
Reserved	6
Reserved	7

Tamper Alarm	051
Tamper zone as 24H zone	1
Alarm 1 active on Tamper	2
Reserved	3
SLO on Tamper	4
Tel. Line fail activates buzzer	5
Tel. Line fail activates siren	6
Dialer Report AC Power Fail	7

Values marked with () are Factory Default Program. * Available with PRO type only

③ TIME-OUTS

AC fail report delay	Zone Response time	Entry Delay 1	Entry Delay 2 **	Exit Delay **	Siren Time	ON Siren Time	OFF Siren Time	A1 Time	Reserved	Chime Time	Abort Delay
Minutes	m. Sec	Sec's	Sec's x 4	Sec's x 4	Minutes	Sec's	Sec's	Sec's	-	Beeps	Sec's
058	059	060	061	062	063	064	065	066	067	068	069
1 0	0 5	1 2	0 0	0 8	0 4	1 5	0 4	3 0	0 0	0 3	0 4

Note: Address 059 adjusts the response time of zones selected as 'Fast Response,' applicable with inertia sensors. ** Maximum value = 64.

④ SYSTEM FEATURES

Feature	070
Enable-Siren/Bell Test upon Arming	1
Enable-Keypad 3 Beeps upon Disarming	(2)
Enable-Sounder upon Entry Delay	(3)
Enable-Keypad Tactile Beep *	(4)
Disable-4 LEDs display during Armed	5
Enable-Battery Test upon Arming	(6)
Enable-Code No. 7 for Access Control	7
Enable-Keypad Panic	(8)

Feature	071
Enable-Erase Follow Me number on Disarm	(1)
Enable-Instant Arming via Key 5	2
Enable-Sounder during exit delay	3
Enable-Display Troubled Zone at Arm *	4
Enable-Manual Bypass via Code No. 1 *	5
Lock in Armed after Tamper Alarm	6
Enable-Momentary Key-Switch	(7)
Enable-Code '8' as one time code	8

Feature	072
Enable-Bell mode	1
Enable-Detailed alarm history	(2)
Enable-Report Opening/Closing	(3)
Enable-Test signal to central station	4
Enable-Report bypassed zones at Arming	5
Enable-Exit delay when delayed zones clear	6
Enable-'ON' output as SVM trigger	7
Enable-codes reset to default by * & #	(8)

Feature	073
Enable-Display troubled zones at Disarmed	(1)
Enable-Test to central station every hour	2
Enable-Self contained Bell (0V at alarm) **	3
Reset for smoke via SLO output	4
Enable- Group Bypass when Arm with Key	5
Enable - 2 Siren Beeps at Key Disarming	6
Enable - A1 output time follows Siren time	7
Enable - Outputs (A1, ON, SLO) float at active	8

Feature	074
Enable - 'SLO' output as SVM trigger	1
Enable - Auto-arming 8 timers >PRO only<	2
Enable - Zone auto reset before alarm time-out	3
Enable - SLO as Pwr cut control >PRO only<	4
Reserved - UK version (Techi Store for CS)	5
Enable - DTMF control (2008D or Ver. 3)	(6)
Bypass Answering Machine	7
Enable-Echo Cancellation Tone (AUSTEL)	8

* (071/6) Not available with PRO

** (073/3) self-contained Bell is operative if Bell mode selected

Note: Features 070/4 and 071/5 are not operative with PRO panels. In Australia program '8' in address 074.

Note: Address 074-5 is applicable for special PRO UK version, supplied with techno-store.

⑤ DIAL PARAMETERS

Pre-Dial Delay	Wait for Dial Tone	Anti-Jam Delay	Dial tone detection	Dial Mode	Tel. MSG Time	Inter-Call Delay	Re-Dial Cycles (max.)	Pulse MAKE	Pulse BREAK	Inter Digit Delay	# of Rings for modem
Sec's	Sec's	Sec's	00=No 01=Yes	0=Pulses 1=DTMF	Sec's	Sec's	XX Cycle	5 mS	5 mS	50 mS	Tel. Rings
080	081	082	083	084	085	086	087	088	089	090	091
0 3	0 4	1 0	0 1	0 1	5 0	2 0	0 3	0 8	1 2	2 0	1 0

Instant modem answer	Ring Cycle	Tel. Line Test Intervals	Min. Ring Length	Rings Time Out
00=No 01=Yes	100 mS	Hours (Max 24)	10 mS (Max 20)	Seconds (4 to 35)
092	093	094	095	096
0 1	2 0	0 0	1 5	0 6

Note address 091: The download is ENABLED by default. Enter a value of 21 at address 091 to disable modem (21 rings for modem not accepted by telephone net). To ENABLE enter 01 to 20 at address 091. To enable Instant Modem Answer (Answer Now) enter 01 in address 092. In use mode; hold-down key 6 then hold-down key 1. 'A' is displayed in confirmation.

ⓈSET USER CODES: Address 099 provides setting of user codes 1 to 8.

ⓈSET FACTORY DEFAULT:

AV-2008: In address 200 enter 8 0, program will revert to factory default programming

AV-2005: In address 200 enter 5 0, program will revert to factory default programming

Display version: The version (revision) and its date is displayed in installer programming mode by command 200+00

Ⓢ COMMUNICATOR PARAMETERS

Telephone	Receiver		Reserved	Handshake		Data Format		Protocol		Sum Check		Transmit		Internal MSG		Wait for	
No. 2	Format 201			Frequency 203		205		Type 207		Parity 209		Rounds 211		Time 213		Handshake 215	
	0	0		0	1	0	2	0	0	0	1	0	0	3	0	2	0

Telephone	Receiver		Reserved	Handshake		Data Format		Protocol		Sum Check		Transmit		Internal MSG		Wait for	
No. 3	Format 202			Frequency 204		206		Type 208		Parity 210		Rounds 212		Time 214		Handshake 216	
	0	0		0	1	0	2	0	0	0	1	0	0	3	0	2	0

00 - Dialer only (No Communicator)	00=1400 Hz	00=3 X 1	00=Standard	00=None	00=2 Rnd	00=0.1 Sec	XX=Sec's
01 - Ademco, Silent Knight Slow, Scantronic	01=2300 Hz	01=4 X 1	01=Extend	01=S.Check	01=1 Rnd	30=3 Sec	
02 - Radionics Fast	02=Hi/Low	02=4 X 2				3 Sec's is Default	
03 - SESCOA, Vertex, DCI, Franklin	**	03=3 X 2					
04 - Silent Knight Fast							
05 - Radionics, DCI, Franklin Slow							
06 - Universal High Speed							
07 - Contact ID/Ademco Fast							

00 - 'No Communicator,' is identical to 'Dialer' that generates sound upon alarm. ** For Contact ID, program 02 in 203 & 204 address. For Ademco Fast enter 02 at address 023 & 024. 'Rnd' is short for ROUNDS. 'S. Check' is short for 'Sum Check.' 'Hz' is short for 'Hertz' (frequency unit).

Ⓢ REPORT SELECTION (Sections 9 and 10 require no programming if Contact ID selected)

For communicator codes A to F (Hex), enter the following: A=10, B=11, C=12, D=13, E=14, F=15. Note: entering 0 0, is equal to blank.

Group 1								Group 2								
Report on Alarm 105								Report on Alarm 106								
1	2	3	4	5	6	7	8	<ZONE>	AC	LB	PA					
1	2	3	4	5	6	7	8	<VALUE>	1	2	3					
Zone Restore 107								Control Panel Restore 108								
1	2	3	4	5	6	7	8	<ZONE>	AC	LB	PA					
1	2	3	4	5	6	7	8	<VALUE>	1	2						
Report Bypassed Zone 109								Reserved 110								
1	2	3	4	5	6	7	8	<ZONE>								
1	2	3	4	5	6	7	8	<VALUE>								

Ⓢ ALARM, RESTORE, BYPASS ZONES, OPENING / CLOSING, SIGNAL TEST & FORCE OPENING CODES

Group 1								Group 2								
Alarm Codes - Single Codes								Alarm Codes - Single Codes								
1	2	3	4	5	6	7	8	<ZONES>	AC	LB	PA					
(Alarm Code for Fire=1)																
110	112	114	116	118	120	122	124	<CODES>	126	128	130					
3	3	3	3	3	3	3	3		F	F	2					
111	113	115	117	119	121	123	125	<CODES>	127	129	131					
1	2	3	4	5	6	7	8		9	8	1					
Alarm Codes - Extended or 2 Digits								Alarm Codes - Extended or 2 Digits								
Restore Codes - Single Codes								Restore Codes - Single Codes								
1	2	3	4	5	6	7	8	<ZONES>	AC	LB	PA					
142	144	146	148	150	152	154	156	<CODES>	158	160	162					
E	E	E	E	E	E	E	E		E	E	E					
143	145	147	149	151	153	155	157	<CODES>	159	161	163					
1	2	3	4	5	6	7	8		9	B	A					
Restore Codes - Extended or 2 Digits								Restore Codes - Extended or 2 Digits								

Bypassed Zones Codes - Single Codes								Reserved							
1	2	3	4	5	6	7	8	<ZONES>							
174 176 178 180 182 184 186 188															
8	8	8	8	8	8	8	8	<CODES>							
175 177 179 181 183 185 187 189															
1	2	3	4	5	6	7	8	<CODES>							
Bypassed Zones - Extended or 2 Digits															

Closing (Arming) Codes-Single Digit										Opening (Disarming) Codes-Single Digit										Single Digit								
1	2	3	4	5	6	7	8	Test	<USER>										1	2	3	4	5	6	7	8	Test	Force
220	222	224	226	228	230	232	234	236											238	240	242	244	246	248	250	252	254	Opening
C	C	C	C	C	C	C	C	A	<CODE>										B	B	B	B	B	B	B	B	D	256
221	223	225	227	229	231	233	235	237											239	241	243	245	247	249	251	253	255	257
1	2	3	4	5	6	7	8	9	<CODE>										1	2	3	4	5	6	7	8	9	
Closing Codes - Extended or 2 Digits										Opening Codes - Extended or 2 Digits																		

In order to disable reporting of Closing/Opening, change program at address 072; remove value '3.' When SIGNAL TEST is enabled, you can specify System Status report by programming 'Armed' and 'Disarmed.' For example 'A' (Armed) at 236, and 'D' (Disarmed) at 254, '9' is the test signal code. For System Status report, select extended or 2-digit format.

For programming End-User codes 1 to 8 (Arm/Disarm codes) at installer programming mode, enter address No. 099; 'u' is displayed. Program new codes by first entering the code index (1,2,3..8). For Force Opening Code (Ambush), the user should enter the Disarming code in reverse order.

①① **TEL. 2 - SUBSCRIBER ID NUMBER**

Note: For subscriber ID that contains a '0' (zero), enter 10 in place of 0. '0' will be displayed as 'A.' Do not enter 0 0.

Group 1				Group 2				Group 1				Group 2											
Full Program				Full Program				Full Program				EASY Program											
Alarm / Restore ID				Alarm / Restore ID				Opening /Closing ID				Alarm / Restore ID											
260	261	262	263	268	269	270	271	276	277	278	279	360				368				376			

To program the subscriber ID number more easily (as a sequence of 4 digits), use the EASY Program (available only starting VER 1.04 and up). Even if your code has only three digits only, you still have to enter 4 digits. The 4th digit can be any digit, and the system will disregard the 4th digit.

TEL. 3 - SUBSCRIBER ID NUMBER

Note: For subscriber ID that contains a '0' (zero), enter 10 in place of 0. '0' will be displayed as 'A.' Do not enter 0 0.

Group 1				Group 2				Group 1				Group 2											
Full Program				Full Program				Full Program				EASY Program											
Alarm / Restore ID				Alarm / Restore ID				Opening /Closing ID				Alarm / Restore ID											
264	265	266	267	272	273	274	275	280	281	282	283	364				372				380			

Values beneath addresses are default programming.

¹ Auto Bypass is applicable to Instant (Non-Delayed or Non-Follower) zones only.

Address - a location on the programming sheet.

Addresses reside between 010 and 380.

Value - determines the characteristics of an address.

2.2 □ Introduction

- The program determines most of the control panel features. Programming is performed in order to enable maximum compatibility of the control panel with the specific site.
- The control panel is supplied with the basic 'Factory Default Program,' which is in effect at system power up. (See also: Factory defaults programming.)
- Before starting programming, it is advised to mark the desired values on the programming sheet.

2.3 □ Programming Sheet Explanation

Table ①: Addresses 010 to 013 are used to enter the telephone numbers that will be dialed upon alarm or at other events (when communicator to central station has been programmed).

Telephone numbers 2 & 3 are for communicator (if selected), or non-communicator, according to programming of addresses 201 & 202. Telephone numbers 1 & 4 are only for regular telephone dialer with alarm sound.

Table ②: Enter the zone feature by zone number, as described in addresses 019 to 041.

Addresses 050 and 051 manage five different features, which specify the alarm outputs upon Panic and Tamper alarm.

Note: Entering a '0' value in an address will delete all 4-alarm outputs during Panic or Tamper alarm at that address zone.

Table ③: Addresses 059 to 069 indicate siren, delay and other time out. Enter the time in two digits (e.g. for 2 seconds, enter 0 and then 2).

Table ④: Addresses 070 to 074 indicate special features of the system. Enter the required features by their number in each address. Each address have eight different parameters. For AUSTEL approved systems enter the value '8' in address 074.

Table ⑤: Addresses 080 to 091 indicate telephone and modem specifications according to local telephone company requirements.

Table ⑥: Address 099 provides setting of user codes 1 to 8 within the programming mode.

Table ⑦: Address 200 reverts system to Factory Default: AV-868/2008 by entering 80, AV-865/2005 by entering 55.

Table ⑧: Addresses 201 to 216 indicate the communicator parameters according to your central station's specifications. Contact the central station for full details.

Table ⑨: Addresses 105 to 109 provide selection of the required events to be reported. For example: To select zones 1, 2 and 6 for Zone Restore report, program 1, 2 and 6 in address 107.
Do not program if Contact ID format selected.

Table ⑩: Addresses 110 to 257 contain the codes that will be reported for the selected events. The codes programmed as default are recommended; you may change them according to your central station requirements. Do not program when Contact ID format selected.

Table ⑪⑪: Addresses 260 to 380 contain the subscriber ID number that will be transmitted to the central station. Follow EASY program instructions for fast code programming.

2.4 □ Glossary of Programmable Features

Note! A zone not programmed as a 24H, Delayed, Fire or Follower zone, is automatically acknowledged as Instant zone

24-Hour Zone - Zone feature. 24H zone activates alarm in both Armed and Disarmed modes, indicated by Armed LED blinking. If 24H zone remains troubled after disarming the system a warning sander will sound after 10 seconds (allows the user to repair or bypass the troubled zone) from disarming. After another 10 seconds, alarm will be triggered.

Address: 024.

AC power fail report delay - Some installations require to report the AC fail after a while and not immediately, specially required in areas with frequent AC fails.

AC failure will be reported if the AC power is lost for the time programmed at address 058 (default time is 10 minutes). Programming a 0 (zero) force an instant report to the central station, and to dialer users (if address 051-7 programmed so).

"Restore" report to the Central Station will be issued immediately after the power returns, but not if a "Fail" report was not previously transmitted.

AC Fail report (with or without delay) is effective in Armed and Disarmed mode.

Adjustable response time - This feature has been added in order to provide application of inertia sensors. For zones programmed as 'Fast Response', the time response (sensitivity) can now be controlled. Time response is programmed in 10 mS (milliseconds) steps at address 059. Default is 5 (50 mS). Address: 059.

Answering machine bypass - In case the alarm panel is connected with fax or answering machine on the same line, this feature provide to connect to the control panel for up and download. If this feature is not enabled the fax or answering machine answers before the panel, connection is impossible.

Address 074-7.

Auto Bypass (Instant Zone) - For automatic bypass of troubled instant zone(s) upon Arming, program zone(s) as Auto Bypass. Attempting to Arm the system while zone(s) programmed as Auto Bypass Zone are troubled will activate the Yellow LED on keypad in confirmation that zone is bypassed. Automatic bypass does not affect Delayed, Follower, Fire, or 24H zones.

Address: 034.

Code '8' as One Time Code - This feature enables user code no. 8 as one time Arming code. If this feature is selected, the code will be operative during 30 seconds after Arming with code 8. During the 30 seconds, Code No. 8 will be active for both Arming and Disarming. Enter '8' at address 071 to enable this feature.

Day Zone - Zone programmed as a Day Zone enables alarm from keypad's sounder during daytime (system is usually disarmed). The day zone will trigger the keypad sounder, and the zone number will flash on keypad display. To reset Day Zone alarm, hold-down key 9 (reset key).

During Arm mode, this zone will act as burglary zone and will emit an alarm when troubled.

Address: 025.

Delayed Zone - Zone programmed as a Delay Zone provides exit and entry delay time from arming moment. See Entry Delay 1 and 2.

Dial Parameters - Enables adjustment of dialing specifications according to local requirements. The most critical are the Pulse Make and Pulse Break times (Pulse Dial mode) that may be different in each area. Steps are by 5 milliseconds (ms), which is sufficient according to tolerance requirements of +/-2 milliseconds. Contact your local Telephone Company for full specifications in your area. Addresses: 080-090.

Dialer Report AC Power Fail (from Version 2.17C) - Enable this feature by programming 051-7. When feature enabled system reports AC Fail to user telephone. AC Failure is recognize as rapidly changing tone sound sent by the system's dialer. Whenever other events occur, the sound for burglary, panic or fir events has priority.

When this feature is enabled, the AC power fail event will blinks the Red LED (armed) (same as in the alarm event). After disarming the system when the AC power fail event occurred and was reported by the dialer, entering a user code will not Arm the system - it will simply clear the condition (the Red LED will stop blinking) and will stop the dialer activity. To arm the system re-enter the user code.

Enable Siren Test upon Arming - A Short beep sounded upon arming, indicating that the system is armed and siren is operative.

To enable Siren Test upon Arming, enter value '1' in address 070.

Address: 070.

Enable OUT 2 for Smoke Detector Reset - After the Smoke Alarm triggering, reset is required. Pressing key '9' activates OUT #2, which briefly disconnects smoke detector power (via optional relay) and resets automatically. Address: 071.

Entry Delay 1 and 2 - To enable two different entries delay period, program selected zone(s) for Entry Delay 1, and other zones for Entry Delay 2. Cancel entry delay by holding down key 4 prior to Arming. Program Entry Delay 1 for a maximum of 99 seconds. Entry Delay 2 maximum of 396 seconds (see Time Outs at addresses 060 and 061).

Addresses: 021 & 022.

Entry/Exit Follower Zone - Reacts instantly upon detection without previous triggering of delayed zone. Exit delay affects follower zones. Follower zone acts as delayed zone during exit delay and after entering via delayed zone. It is recommended to avoid installing magnetic switches for protection of a follower zone. (They should be used only for entry/exit door).

Address: 023.

Erase 'Follow-Me' Number upon Disarming - After disarming, the system erase (deletes) the Follow-Me number. If the 'erase' feature is not programmed, 'Follow-Me' number is stored in System memory as the first Dialer number. System dials first the communicator number/s (if communicator selected).

Address: 071

Exit Delay - Determines the delay period (for delayed or follower zones) before zone becoming active. Countdown starts upon system arming. Maximum exit delay is 396 seconds.

Address: 062.

Exit Delay when Delayed Zones Clear - Enables Arming of the system only when all delayed zones are clear. Exit Delay will start the countdown. Applicable when long or variable exit delay is required.

Address: 072.

Fire Zone - A zone programmed for connection of fire or smoke detector. Alarm sounded in both Armed and Disarmed modes. Activate the Fire LED. If Fire zone remains troubled after disarming the system a warning sounder will sound after 10 seconds from disarming (allows the user to repair or bypass the troubled zone). After another 10 seconds, the alarm will be triggered.

Fire alarm activates siren sound that is differs from the 24H zone or burglary alarm, only if siren speaker is used. Address: 019.

Fast Response Zone – A Fast Response zone is set to 100 ms (standard response time is 750 ms). Use Fast Response zone for connection of shock (inertia) or beam type detectors. The time response for zones programmed as 'Fast Response' is programmed at address 054. Note: Applicable for sensors with short open time relay.

Warning: Fast response zones increase the false alarms occurrences

Addresses: 032.

'Follow-Me' Number - Telephone number programmed by user before Arming, enables user to set a telephone number to follow him to other locations at an alarm. Addresses: 010.

Forced Opening (Ambush) - Forced Opening (disarming) is operative only if 'Report to Central Station' is selected (refer to program table address 256). By disarming the system with the opposite

sequence, code (arming with 1234 code, and disarming with 4321 code) the system will report a forced opening (forced Disarming).

Addresses: 256 & 257.

Group Bypass (Home Mode) - Group Bypass enables removal of several zones from the system. The group of zones to be bypassed (removed) is programmable (refer to address 033).

Group Bypass is activated by pressing twice key '0' prior to system Arming, Group Bypass is effective only if system is armed within 20 seconds of 'Group Bypass' entry. PRO panels from version 2.16 and upper contain two Group Bypass, 2nd group is at address 034.

Upon Group Bypass activation, the Yellow LED flashes, and 'h' (Home) is displayed for 1 second. Groups Bypass via code is optional (refer to address 071).

Green Reset Zone - This feature disables zones in alarm to keep alarming as long as the zone is troubled. Useful in case of wire cut, broken sensor, etc. In such case, the zone will alarm one siren cycle and will alarm again only after zone cleared and troubled again.

Green Reset Zone required by the environment authorities to keep the alarm noise as short as possible. Zones programmed as a 'Green Reset Zone,' will not signal another alarm if the zones remain troubled.

Address: 026.

Inter Call Delay - Time delay until dialer proceeds to next telephone number.

Address: 086. (Default value: 20)

Instant Arming - System can be instantly armed by pressing key '5.'

Disable this feature if keypad is easily accessible.

Address: 071.

Lock in Arm after Tamper Alarm - This feature will prevent Disarming when a Tamper alarm has occurred during Armed mode.

To disarm system, enter Programming code (installer code) to unlock system, then enter a valid User Code.

To meet required standards, use this feature, which ensures that only the Installer (system engineer) can Disarm a system in which Tamper alarm occurred while system was Armed. Example: Prevents 'Self-Burglary' by owner. Addresses: 071.

Manual Bypass (Manual Shunt) - Any zone (1 to 8) programmed for Selective Bypass, may be bypassed (removed from the system) by pressing key '0' and then the zone number. The Yellow LED will light up in confirmation. It is not possible to bypass all zones. Upon Disarming, all bypassed zones will automatically become non-bypassed. Address: 035.

No EOL Resistor - Programmed zone(s) 1 to 8, not wired with an End Of Line resistor, will be activated upon opening the normally closed loop between the zone and common (-). To enable all zones to be EOL type, enter '0' (zero) in address 029.

Address: 029

Normally Open Zones - Detectors with Normally Open (N.O.) relay can be wired without EOL resistor. If several N.O. devices are used, they should be wired in parallel. If N.O. feature is not programmed, N.O. devices, such as push-button, should be wired in parallel to the EOL resistor. The N.O. relay in alarm will cause a SHORT CIRCUIT condition, which will trigger the alarm.
Address: 042.

‘Off’ Siren Time - Determines the silent period during an alarm cycle. This feature helps prevent overheating sirens and electronics. This feature required by environmental agencies to prevent noise pollution. (Recommended default value: 04).
Address: 065.

‘On’ Siren Time - The siren period during the alarm cycle.
Programming a value of ‘0’ will render siren inaudible in all types of zones.
(Default value: 15).
Address: 064.

Outputs float at Alarm - If programmed during alarm, the A1, ON, SLO outputs will float (if disabled drives Low) at alarm. Applicable most for driving wireless central station transmitters or other devices that require non -V (max. 100 mA) when triggered. If another feature is selected for the same output, this feature will be canceled.
Address: 073-8.

Panic Alarm – Holding down * and # keys will trigger Keypad Panic alarm; H is displayed (zone ‘H’). To reset the alarm enter a valid code. Starting version 2.17 selectable Panic Zone included at address 045, the default is 0. The Panic zone provides to use remote panic buttons; in previous version, only Panic from keypad was available. Contact ID format reports Panic Zone alarm to central station. Siren sounds. If Siren (not Bell) in use, the sound is different, not the same sound as Burglary alarm. Panic alarm recorded in history and displayed as H (z). (Z: number of zone, 1-8). For Silent Panic alarm, remove siren and buzzer activation by programming the Panic Zone so.

Programming Code (Code number 9). Code 9 provides access to the Installer Programming mode. New code can be programmed only if the current Programming Code is known.
Default programming code is ‘1 9 9 4.’

Re-Dial Cycles - The number of times dialer or communicator will dial the programmed telephone numbers. Address: 087. (Recommended value: 3)

Report Opening/Closing (Enable-Disable) - This feature enables or disables the Opening and Closing report for central station. Applicable for residential installation when Opening and Closing reports are not required. Address: 072.

Ring Length – Adjusting the ring detector according to the country ring frequency. Address 093.

Report Bypassed Zones at Arming (Enable-Disable)- Insurance companies require this feature in certain areas. Address: 072.

Siren Time - Determines the duration of the alarm when zones are activated. Fire and Panic alarm issues a modulated 2-tone siren. 24H and Burglary alarm issue a modulated 3-tone siren. Modulated tones are disabled when Bell Mode is programmed (Address 072). A programmed value of '0' will issue an inaudible alarm. Address: 063.

Sounder on Alarm - This feature enables keypad sounder during alarm. When alarm is on, a modulated tone will sound until disarming of the system. Address: 041.

Swinger Shutdown Zone - Zones that have been programmed as Swinger Shutdown will reset twice (3 alarm cycles). This feature prevents repeated alarms. Address: 027.

SVM (Synthesized Voice Module) Module - Optional module that enables transmission of recorded message upon alarm. To trigger the SVM unit, program address 072, location 7. SVM pack contains the wiring and operating instructions.

Test Signal to Central Station (Enable-Disable) - This feature enables setting up time of signal test, which is transmitted by the communicator at the required time. The time is set at address 014 in a 24-hour format.

For example: If the transmitting time is every night at midnight, enter 0000. To enable the signal test, program '4' at address 072.

Address 073 '2' enables the signal test every hour. Other periodical or manual via keypad, CS tests are not possible. (CS is shortening of Central station).

The test signal is on automatically every 24 hours to confirm that system is operative.

The system status (Armed or Disarmed) can be notified also if extended, or if 2-digit format is selected.

For example: 'A' in address 236 for Armed, and 'D' in address 254 for Disarmed.

Address: 072, 073, 236, 237, 254 and 255.

Zone In Use - A zone programmed as an 'In Use Zone' enables activation of the programmed zone. This feature eliminates the need to bypass not in use zones by wire or End of Line Resistor. Address: 020.





2.7 □ Programming Examples

Entering Installer (Engineer) Programming Mode

Easy Tip: *You may program any address by entering the address, followed by the value in sequence.*

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')    .

3. If code is valid, 'P' will be displayed. The two left LED's (Red & Green) blink to indicate that system is waiting for a new programming address number.
4. Enter address to be programmed (see programming sheet). Current value of address is displayed, and LEDs will blink.

Note: Blinking of two 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: Three blinking LEDs means *system is waiting for new value to be entered;*

Enter a 2-digit value, or as required.

EXAMPLE 1:

'P' is displayed and the two left-most LEDs are blinking.

1. Program zones 1 and 4 as 'Exit/Entry Delayed 1' zones.
2. Address 021 represents the 'Exit/Entry Delayed 1' zones.
3. Press ; current value of this address is '1' (default program.)

Three LEDs will blink and a '1' will be displayed (default program).

4. To enter new required value, press the address number , followed by the new value ('1' and '4') by pressing in uninterrupted sequence; 'U' confirms programming updating.
5. 'P' is displayed and the two left-most LEDs are blinking.

EXAMPLE 2:

1. Program zone 8 as a 24H zone (in default, this is an Instant Zone).
2. Address 024 represents the 24H zones
3. Press ; current value of the address is '-' ('-' means blank - no 24H zone is programmed). 3 LEDs will blink, and '-' will be displayed (default program).
4. To enter new required values, press the address number , and then enter new value '8,' by pressing (zone 8); 'U' confirms programming updating.
5. 'P' is displayed and the two left-most LEDs are blinking.

Note: To disable a feature, program '0' in the feature's address

EXAMPLE 3:

1. To program zone 1 to 4 as "Fast Response Zone".
2. Address 032 represents "Fast Response Zone".
3. Press ; current value of the address is blank; 3 LEDs will blink and '-' will be displayed (- means blank; no Fast Response Zone is default program).
4. To Enter new required value press the address number then enter new value 1 2 3 4 by pressing .
'U' confirms programming updating.
5. 'P' is displayed, 2 left-most LEDs are blinking.

EXAMPLE 4:

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;
3 LEDs will blink and '04' will be displayed (default program).
4. Enter address 063, then a new value of '02' by pressing . 'U' confirms programming updating.
5. 'P' is displayed and the two left-most LEDs are blinking.

EXAMPLE 5:

Enter an Exit Delay of approximately 2 minutes, by entering the value '30' in address 062; (30 seconds x 4 = 120 seconds).

EXAMPLE 6:

1. Disable Dial Tone Detection. (Used for exchanges where Dial Tone is not the standard 440 HZ tone).
2. Address 083 represents Dial Tone Detection.
3. Press ; current value of the address is 01;
3 LEDs will blink and '01' will be displayed (default program).
4. Enter to address 083, followed by the new value '00' by pressing ; 'U' confirms programming updating.
5. 'P' is displayed and the two left-most LEDs are blinking.

EXAMPLE 7:

1. Enable Siren Test upon Arming (in default program the siren test is disabled).
2. Address 070 represents 'Enable Siren Test upon Arming.'
3. Press ; current value of the address is 2 3 4 6 8;
3 LEDs will blink and '2 3 4 6 8' will be displayed (default program).
4. Enter address 071 and then enter the new value 1 2 3 4 6 8, by pressing ; 'U' confirms programming updating.
5. 'P' is displayed and the two left-most LEDs are blinking.

EXAMPLE 8: Report to Central Station

Note: To enter data use two digits, i.e. in address 110 to change the transmitted code from the default value '3' to '5', at keypad enter '0' '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. For example, if the receiver format is Radionics Fast for Tel. No. 2, enter '02' in address 201.
Most important parameters are the Receiver Format, Handshake frequency and Data Format.

Data Format: This parameter describes how data is transmitted to the central station. Data Format types are divided into 3 main groups: Extended Format, 2-digit Format (first format = type of event, second digit = event zone) and Single Format. In all formats, Sum-Check (parity) is optional, depending on the specifications of central station receiver.

Extended Format Reporting: Extended Format and 2-Digit Format allow communicator to transmit an extra digit, which provides additional information as zone number and occurred event. Program 01 (Extended) in address 207. Contact your central station for required Data Format, protocol type and parity.

Data format '3 x 1' means 3 digits for the subscriber number and 1 digit for the event.

For example:

System installed with the following transmission specifications for Tel. 2:

Subscriber number is 456 (program at address 260-262)

Report on 'Low Battery' selected (program at address 108 and 128)

If 'Low Battery' occurs, communicator will transmit:

456F - Subscriber '456'

FFF8 - Low Battery ('F' = FAULT)

Single-Digit Format Reporting: If receiver accepts only single digit format, program 00 or 01 in address 205, and 00 in address 207.

The data format 4 X 1 or 3 X 1 means 4 or 3 digits for subscriber number and 1 digit for event.

For example:

System installed with the same transmission information for Tel. 1, but single-digit format:

456 - Subscriber '456'

F = Low Battery, will report '456F'

Two-Digits Event Format Reporting. Report 2-digits code for each event. Enter 02 or 03 in address 205, and 00 in address 207.

④ Refer to address 105 and fill out the zones to be reported, and in address 106 the events to be reported. Default programming is useful in most cases.

⑤ Enter the alarm and restore codes in addresses 110 to 163, according to single or extended data format transmitting.

⑥ Enter the closing and opening codes in addresses 220 to 227, according to number of users.

Forced Opening will be transmitted when Opening (disarming) the system using an inverse code.

⑦ Enter the subscriber ID (subscriber number) in addresses 260 to 283, using 3 or 4 digits according to programmed format entered in address 205 and/or 206.

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 8).

To disable 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.

For example: User 2 is not to be reported for Closing: Program 00 in address 222; or, user 3 is not to be reporting for Opening; program 00 at address 242.

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

Starting with version 1.04, subscriber ID codes can be entered as a sequence of four digits for faster and easier programming; refer to addresses 360 to 376. For special applications, you may also enter the ID's address by address (refer address 260 to 283).

Communicator's Subscriber ID Codes - EASY Programming

Refer to programming table, part 10; 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, 4 LEDs are blinking, enter 2170.

Note: Even if your communicator receiver requires three digits for the subscriber ID, enter 4 digits. The system will ignore the fourth digit automatically

If your central station requires programming of letters as well as numbers, please 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).

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

Contact ID Format (known also as Ademco Express): This is the fastest to program and easiest to use communicator format, with communication speed achieved by the DTMF signaling. When using this format, program only Central Station (CS) telephone numbers and the subscriber ID; all reports will be automatically transmitted, with no need to program anything else.

2.8 Reset System to Default Programming

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

1. Enter program mode.

2. AV-2008: Go to address 200 and enter '8' and '0.', or '8' and '8' for AV-2008D. AV-2005: Go to address 200 and enter '5' and '0.'

Display will show system type, version and version date. For example AV-865 version 2.09 display:

5r 209 d 01 04 99. System will revert to factory default program and codes; master code is 1 2 3 4, programming code restore to 1 9 9 4.

Quitting and updating new Programming

To exit programming mode hold down .

Wait for a long beep, and then release the key.

When 'P' is no longer displayed, the system will revert to Disarmed mode.



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)

By factory default this feature is enabled. If user disabled it codes restore not possible. To check refer to address 072, enter 8 in address 072.

To reset codes:

Power down by removing AC and battery, wait 30 seconds. Power up (by applying AC and Battery) and immediately got to keypad:

Hold-down keys  * Press both together  # during 4-5 seconds; wait keypad buzzer beeps. after 2nd beep, release keys; 'U' will be displayed 3 times in confirmation.

User code No. 1 (1234) and programming code (1994) will reset to default.

2.9 Dialer - Communicator, Explanation and Programming

The Communicator is, in essence, a dialer that enables communications with a central station digital receiver. The Communicator reports (upon programming) panel's events such as Opening, Closing, Alarm, and Low Battery.

The Communicator's programmable features enable compatibility with different central station receivers. The receiver's most important features are the Format (Radionics, SESCOA, etc.) and Data Transfer Mode (1 x 3, 2 x 4).

The four programmable telephones (telephones 1 to 4) act as dialers, while Tel. 2 and 3 (Tel. 3 is backup for Tel. 2) are optional as communicator or dialer.

The communicator/dialer options are programmed at addresses 201 and 202. Tel. 3 alone cannot be programmed as communicator. At alarm, Tel. 2 and 3 will be dialed first if programmed as communicator. Program the same reporting format for Tel. 2 and Tel. 3.

In the 'Communicator' mode, the panel will dial several times until the central station sends a confirmation signal (Kiss-Off) that all the events have been transferred. The Kiss-Off signal turns the communicator off until the next event occurs. If the number is busy, panel will re-dial automatically.

The dialing attempts number (cycles) is programmable at address 087. In case first central station telephone number (Tel. 2) does not get Kiss-Off after several attempts, the system will dial the back-up number - Tel. 3. Program both Tel. 2 and Tel. 3 as communicators. When system is disarmed, AC Fail is reported 30 minutes after power fail to prevent false alarms.

To cancel the communicator dialing: Enter to Program Mode and Exit program.

Dialer

The Dialer acts similarly as the communicator, except for the panel that sends a recorded alarm tone or vocal message with SVM module, (not a digital signal) to a regular or mobile telephone. Unlike the

communicator, the dialer does NOT identify busy signals, and it is therefore recommended to program the dialer to re-dial several times (default is 3 cycles). This feature is programmable at address 087. A 'Follow-Me' feature is applicable only with the dialer; in alarm, Follow-Me number will be dialed first if communicator is not selected. See explanation in Glossary section.

Note: Upon alarm, the communicator has dialing priority over the dialer.

To cancel the dialer dialing: Arm and Disarm the system.

Programming Telephone Numbers

1. Enter Program mode as described in programming description.
2. Select Dialer or Communicator mode (addresses 201, 202). For dialer selection, enter 00 in address 201 for Tel. 2, and in address 202 for Tel. 3. (Tel. 1 to 4 is in Dialer mode by default). If communicator is selected, use both Tel. 2 and 3 (not Tel. 03 only). Tel. 3 is backup for Tel. 2.
3. Enter the required telephone numbers (maximum 16 digits) at address 010 to 013. For example program Tel. 1 to be 00972-36816767; Press 010, the two left LED's blink, enter the number 00972 in sequence, hold-down '0' (pause), enter 36816767; wait for 'u' confirmation.
To insert * in the telephone number; Hold-down keys # and * (panic); * will be displayed as 'A.'(* is valid during dialing in DTMF mode).
For Pause during dialing hold-down key '0.' Note: Two pauses (one following the other, or a pause at the end of telephone number) will not be identified by the system. Total 4 pauses per one number.
4. To quit programming mode Hold-Down key '9'.

2.9.1 ☐ Deleting Telephone Numbers

1. Enter program mode, confirmed by 'P' in display.
2. Press 010 (address for telephone No. 1). At 3 LEDs blinking, hold-down key '9.'
3. Follow same procedure for the telephone requiring deletion.

2.9.2 ☐ User Programming of 'Follow-Me' Telephone Number

To program the Follow-Me number, disarm the system ('USE' mode).

1. Hold down key [6] twice; wait for three LEDs blinking.
2. Enter Telephone Number (maximum 16 digits and 4 pauses), and wait until all LEDs stop blinking. The 'Follow-Me' number is now programmed.
3. To delete 'Follow-Me' number, access 'Follow-Me' programming mode as described in paragraph 1, but do not enter any digits.

To program the system to automatically erase 'Follow-Me' number after Disarm, see Address 071 on Programming Sheet.


During alarm, the system will dial to the programmed telephone and siren will be heard. By connecting SVM speech module, message will be heard.

2.10 Quitting Programming Mode

Via AV-701 or AV-702 Keypad: Upon completion of programming, Hold-Down key 9.

2.11 Verification of Current Programming

(Programmed Values)

Via AV-701/2 Keypad: Set program mode by holding down key  and enter programming code 1994, 'P' is displayed. Enter address to be verified. The value of this address will be briefly displayed and three LEDs will blink.

Wait until LEDs stop blinking before verifying next address.

2.12 Remote Up and Download

EasyLoad Introduction (EasyLoad Introduction DOS Version 2.16)

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 onsite PC (DOS Mode, 386 or higher) by using an AV-232 adapter cable, or via telephone using a modem and 'EasyLoad' software. 'EasyLoad' is compatible with DOS and Windows 95/98.

To program EasyLoader control panel by remote PC, a compatible modem is required. The modem specifications is critical, before attempting to operate the EasyLoader make sure your modem meets the following: Supports the Hayes AT command, Bell 103 compatible, DOS mode is selectable.

EasyLoad software supports most modems manufactured after 1994, including: US Robotics, Hayes, Viva, Boca, Microcom, Netcom Roadster 288, Acer 336, PCMIA 3 com 3CCM156B, Motorola Lifestyle 28.8, Dataplex Multispeed V.32bis, Netcom Smart modem 56, Acer AME-MU00, ABC 56K V.90, and other Hayes and Bell 103 compatible modems.

Computers supplied with WINMODEM will not support the EasyLoader.

The control panel contains a full-duplex modem that conforms to BELL 103 standard.

Installing *EasyLoad* on your Computer

Insert the *EasyLoad* diskette in the floppy drive A (or B) and type 'A:' (or 'B:'). At prompter 'A:>' type 'AVGAD217.' The installation program will guide you, and will install *EasyLoad* automatically by creating a new directory on your hard drive, called AVGAD, or a name of your choice.

To start your EasyLoad: at the prompt 'C:\AVGAD>' type 'ESAV'.

IMPORTANT! The most current updates and *EasyLoad* features are in the READ ME file.

Read it carefully before using the EasyLoad.

Factory default access code is [AVGAD123](#). Change the code as soon as possible and renew it periodically.

The first time you run the program, missing "Files Message" displayed (the database), answer 'Yes' to create them.

The main *EasyLoad* menu contains seven selectable fields. Enter those fields by using the navigation arrows on your keyboard, or by typing the field number.

Using a mouse is highly recommended. The keyboard can also be used to navigate through the fields, 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 the main menus, you may type the highlighted digits for fast access.

Step 1: Configuring your Modem

Configure your communication port using the SET-UP entry from the main menu (entry 7).

For DOS modems the required COM/IRQ combinations are:

COM1, COM3 - IRQ 4

COM2, COM4 - IRQ 3

To initialize the modem properly use the Auto Detect option before trying to CONNECT, ignore errors that are reported during initialization.

The integrated modem in all EasyLoader control panels (starting from version 2.03) operates in ANSWER mode.

The dial suffix from the Set-Up screen is no longer relevant! The modem will be silent until the control panel answers the call, then the Modem noise is on (the carrier detection procedure). After connection made, the modem's speaker will turn OFF. In this operation mode, you'll be able to hear the call progress tones (dialing, ringing or busy). If the control panel phone line is busy the program will notify you and will disconnect the telephone line.

To get an outgoing telephone line from an extension, fill in the PABX entry on the set-up screen. Type the digit needed for the outgoing line (usually 0 or 9) followed by a W. The 'W' will pause the modem until it gets the second dial tone (from the outgoing line) thus avoiding blind dialing.

Troubleshooting: Sometimes, local PABX stations (telephone system) are fitted with internal modems for remote set-up. These stations, much like the control panels, activate their modems in ORIGINATE mode.

When connecting through such a station to a telephone number that without getting an answer, the station will eventually activate its modem in response to the computer's modem.

The communication program then informs you that connection to the panel has been established! A few moments later, it will disconnect, because there is 'no response from panel!' If you usually dial to control panels that will answer after a long while and the phone station interferes each time, try to use a direct line.

Step 2: Opening a Client Account

At opening a client account (selection 1 in the main menu), make sure to enter the 'Panel Phone Number.' This is the telephone number to which the EasyLoad program will dial for the up and download operation. It is recommended to fill in all client details.

The first time creating a client account, you must choose the control panel model. You cannot modify it later!

To open another client account, select New and enter the account number.

To display the list of all the client accounts, press on the 'List' button. You'll get a sorted list of the clients. Press the SPACE bar to have the list sorted by NAME or Account Number.

To search for a name or any string, press the 'Search' button.

Pay attention to the panel models! There are few models. Older models (up to Ver 1.41) do not require a security code. From version 2.03, all panels request an access code.

Starting from version 2.03, EasyLoader control panels modem operate in Answer mode.

Dealer Code: Control panels starting version 2.03 dealer code is optional. The dealer code provides entry of not authorized users to this panel. Make sure to memories and save code.

This code is initially empty (a string of spaces). When leaving the factory, the control panel is initialized to an empty code too.

The first time the PC contacts a 'virgin' control panel it transfers the dealer code (from the client record) to the panel's memory.

From this moment, any further dialog with that panel will require the dealer code. Note that if the dealer code in the client record is empty, it 'matches' the panel empty code and communication is possible.

This means that you can choose not to use dealer codes. On the other hand, once a dealer code has been transferred to the panel, it cannot be erased or modified. Access to the panel is granted only with this code.

Step 3: Modifying the Programming Table

Select field 2 from the main menu. This will take you to the Programming menu. All settings are the factory defaults.

Select the programming table section you would like to modify. Save and exit.

Feature and code modifications will be updated on the control panel at upload.

You can modify or inspect the programming table while being connected to the control panel ('on-line').

WARNING: The control panel will answer an incoming call upon the number of rings set in the Dialing Parameters, in address 091. The control panel will not answer the telephone when this number is set above 20 rings. The factory default is 10.

Step 4: Connecting

Check your PC time and date before connecting to a control panel!

Upon selecting 'Connect,' the modem will dial to the currently selected client (see Step 2, for programming client telephone number).

While the connection is established, you will hear a high-pitched tone through the modem's speaker (this is the carrier sound). Learn to recognize the tones, and pay attention to the sound, because in its special operating mode, the modem cannot detect BUSY and other call progress signals.

The PC modem will hang up automatically if it does not get an answer from the remote panel during 60 seconds.

When the remote Control Panel answers a call and detects the carrier from the PC modem, the panel enters the programming mode and will remain in this mode until it gets a disconnect command from the PC, or connection is lost due to bad phone line (loss of carrier).

After disconnecting, the Control Panel remains in its previous operating mode unless its status was modified in the 'Commands to Panel' section.

If a user attends the remote panel, connection can be canceled by holding down the '9' key on the keypad.

While connected, the program table can be downloaded, modified and uploaded to the control panel.

If the history log is downloaded, it can be viewed also after disconnecting.

Starting from EasyLoad version 2.09; print and save history is available, files saved in *.TXT format.

To print the events open the file in any DOS or Windows editor and print.

Bypassed zones: When ARMING the control panel, the bypassed zones are recorded in the detailed history log events. They are displayed as 'b6' (zone six bypassed). Total power failure (Sleep Mode) is displayed as 'FF'.

Important: The Control Panel mode (Armed/Disarmed), as set by the communication program, is changed AFTER disconnecting from the remote PC.

Upon reception of the 'change mode' command, the control panel replies with the 'new' mode. It might be different from the one displayed on the computer monitor.

For example: Group Bypass will not be acknowledged, if no such zones were defined (as Group Bypass). The same applies to manual bypassed zones. If one accidentally tries to bypass all the zones, the control panel will discard all bypassing.

Address 092 enables 'Answer Now' (answers remote computer after 1 ring). Number of rings before modem answers can be reduced to one ring; the user attending the control panel and hold-down key 1 then key 6.

Answering machine bypass

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 7 at address 074
2. Program at least 24 seconds at address 096 (Ring Time Out)

Now dial to the control panel, count at least three rings and disconnect, dial again immediately – 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.

Step 5: Disconnecting

When download has been completed, you may disconnect the PC from the remote Control Panel by selecting 'Disconnect' from the main menu.

Control panel status after disconnection:

When the control panel connected by a remote PC, while unattended by the owner, take the following consideration:

- ⇒ The panel will always ARM (if told so by the remote) regardless of the status of zones. That means that currently open zones will not prevent the panel from Arming (not possible with the keypad).
- ⇒ The history log is never cleared after a remote connection.

⇒ For Belgian standard user: If the alarm was caused by ‘Tampering’ the zones, and the ‘Lock System After Tamper Alarm’ feature was programmed, the system will remain locked while it is ARMED.

⇒ If the control panel was contacted after an alarm, and then Armed or Disarmed, the last events are not cleared.

Thus, even after being disarmed by the remote PC, the keypad still displays the zones that caused previous alarms and the status LED blinks (although there are currently no open zones). Pressing the Reset (hold down '9') key will clear these alarms.

⇒ Instruct the owner to clear the history log from time to time. This will keep the history log reasonably short (the maximum event number is 99 in none-PRO panels, 250 events in PRO panels) and will reduce download time.

Events logging

Starting with PC software version 2.03 and control panel version 1.41, the ‘History’ events are also ‘date’ stamped. The control panel time and date synchronized with the remote computer when make connection (as well as when the control panel status is changed by remote PC command).

Starting EasyLoad version 2.09; print, view and save history is available, files saved in *.TXT format. To print the events open the file in any DOS or Windows editor and then view or print. When Arming the control panel the bypassed zones are recorded in the detailed history.

They are displayed as 'b6' (zone six bypassed). Total power failure (Sleep Mode) is displayed as 'FF'.

The control panel date can also be locally set, using the keypad by the hold-down ‘0’+‘2’+ddmmyy (‘0’ and ‘2’ mean ‘hold down’ keys 0 and 2).

Instruct the control panel user how to update the system time and date after a total power loss (‘h’ is repeatedly displayed at the keypad).

To modify or translating the LANGUAGE.TXT, LANGPROG.TXT, LNGPRG16.TXT, HELPPROG.TXT use an ASCII editor. You can translate captions in these files to other languages.

Some of the captions can be translated in the DEF868.TPL, DEF865.TPL and DEF8616A.TPL (be careful with these files!). **Caution!** Make sure to backup the files before altering them. See details in the files themselves.

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

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 interface, 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.

Copying the Programming Table

To cut down the time spent on programming several accounts with practically the same data (communicator parameters, communicator codes, central station telephone numbers, etc.) you may create a few ‘master’ accounts.

For each control panel model you intend to use, create a ‘master’ account containing the relevant programmable data. This ‘master’ account is in no way different from a regular account. Choose an account number that is easy to remember and enter a short description instead of the ‘client name.’

After creating a new client account, exit to the main menu and choose ‘Copy Programming Table’ (entry 6) option. In this screen, type the number of the ‘master’ account you want to copy.

Confirmation of the copy operation will transfer the whole programming table of the master account to the currently open client file. You can now make other adjustments by choosing the 'Modify Programming Table' (entry 2). Full instructions and latest features enclosed in the EasyLoad software diskette.

3. TROUBLESHOOTING

Symptom	Possible Cause	Solution
Keypad failure	<ul style="list-style-type: none"> • Incorrect wiring • Fuse blown 	<ul style="list-style-type: none"> • Check color wire connection • Check power at panel • Check -V with ohmmeter
Keypad displays '8,' but does not react to keys entry	Incorrect connection of data wires	Check Orange and Yellow wire (or terminal block) connections at keypad and system wires terminal. Use two wires for -V
Keypad displays '8,' and keypad sounder is heard	Zone 8 is troubled	Close or bypass zone 8 (Zone 8 is 24H-type by default)
In large installation keypad displays mishmash numbers	Wire is too long or too many keypads wired	Add a 470 ohm resistor between +12V and YE terminal in the control panel Use two wires for the -V that supplies the keypad power
3 LEDs flashing, ≡ is displayed	Power failure	<ul style="list-style-type: none"> • Connect AC power, verify that main socket is alive • Check transformer
'H' is displayed	Panic keys were pressed	Arm and disarm
'≡' is displayed (blinking)	Power failure occurred	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"> • Programming • Siren fuse • Alarm device blown 	<ul style="list-style-type: none"> • Siren time-out addresses should have a value greater than '0' (zero) • Check fuses and make sure siren is working
Dialer dials, but no alarm message is transmitted on telephone	<ul style="list-style-type: none"> • Faulty programming • Hardware fail 	<ul style="list-style-type: none"> • Check address 201 and 202 • Test telephone line

Dialer dials but does not reach the programmed phone	<ul style="list-style-type: none"> • Hardware failure • Special telephone line; ISDN, private line, etc 	<ul style="list-style-type: none"> • Measure telephone line voltage (DC), should be about 50V at ideal, when dialer start, the voltage should drop to approx. 5V (4 to 6V)
Zone is troubled even though E.O.L. resistor is connected or zone is wire bypassed	<ul style="list-style-type: none"> • ‘No-E.O.L.’ feature incorrectly programmed • Incorrect resistor value 	<ul style="list-style-type: none"> • If E.O.L. mode is programmed, connect resistor across zone terminal for testing • Use 2.2K resistor
System self-arming	<ul style="list-style-type: none"> • Remote key wires are too long • Key ‘5’ was programmed for ‘Instant Arming’ 	<ul style="list-style-type: none"> • Run shorter wires from panel to remote key • Disable key ‘5’ (instant arming) by reprogramming address 071
Display of ≡ and Arming is denied	Instant, 24H, or Fire zone is troubled	Bypass or clear the troubled zone
Cannot disarm system	<ul style="list-style-type: none"> • Code was changed before instant arming • ‘Lock In Tamper Mode’ 	<ul style="list-style-type: none"> • Keypad wires are too long • Disable instant arming • Verify address 071 value ‘6’
‘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
‘8’ displayed at keypad and keys do not respond	Power to keypad is OK, communication wires are incorrectly connected, or are disconnected	<ul style="list-style-type: none"> • Make sure wiring is correct • Check wires at panel • Replace keypad
‘L’ displayed upon arming, but battery is OK	Battery fuse blown	<ul style="list-style-type: none"> • Test system without AC power; if inoperative, battery fuse is probably faulty • Check battery wires & fuse
In alarm mode, Aux. power drops below 10V	Aux. power overloaded	If current consumption of Aux. power exceeds, max. current, add external power supply (AV-21 or similar)
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 034 - Zone Auto Bypass

Symptom	Possible Cause	Solution
Remote signaling outputs do not drive (-)	<ul style="list-style-type: none"> • Overload • Incorrect testing • Incorrect programming 	Current consumption from output to load should not be higher than 300 mA (test outputs by connecting voltmeter from output to (+) Aux. power; upon signaling, meter should read 12.5 to 13.6 Volts)
Panel's PCB is getting hot, system doesn't function normally	<ul style="list-style-type: none"> • High AC power • Power supply overloaded or faulty battery (shorten) 	<ul style="list-style-type: none"> • Measure the low AC power, should not exceed 17V • Try to disconnect sensors, keypads or other devices that consume high current
Dialer does not dial on alarm, in spite of a good line and connection	Programming error	Dialer or communicator time-out addresses should have a value greater than '0' (zero). Try to program 'default Program, and dial mode set to Pulse mode
Keypad sounder beeps 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	<ol style="list-style-type: none"> 1) Proceed the default codes restore (if programmed so) 2) Enter to programming mode address 099. Set new user code. 3) Refer to 'Resetting Codes To Default' feature, page 51

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

Our telephone: +972-3-681 67 67, **Fax:** +972-3-683 5505, **E-mail:** avgad@inter.net.il

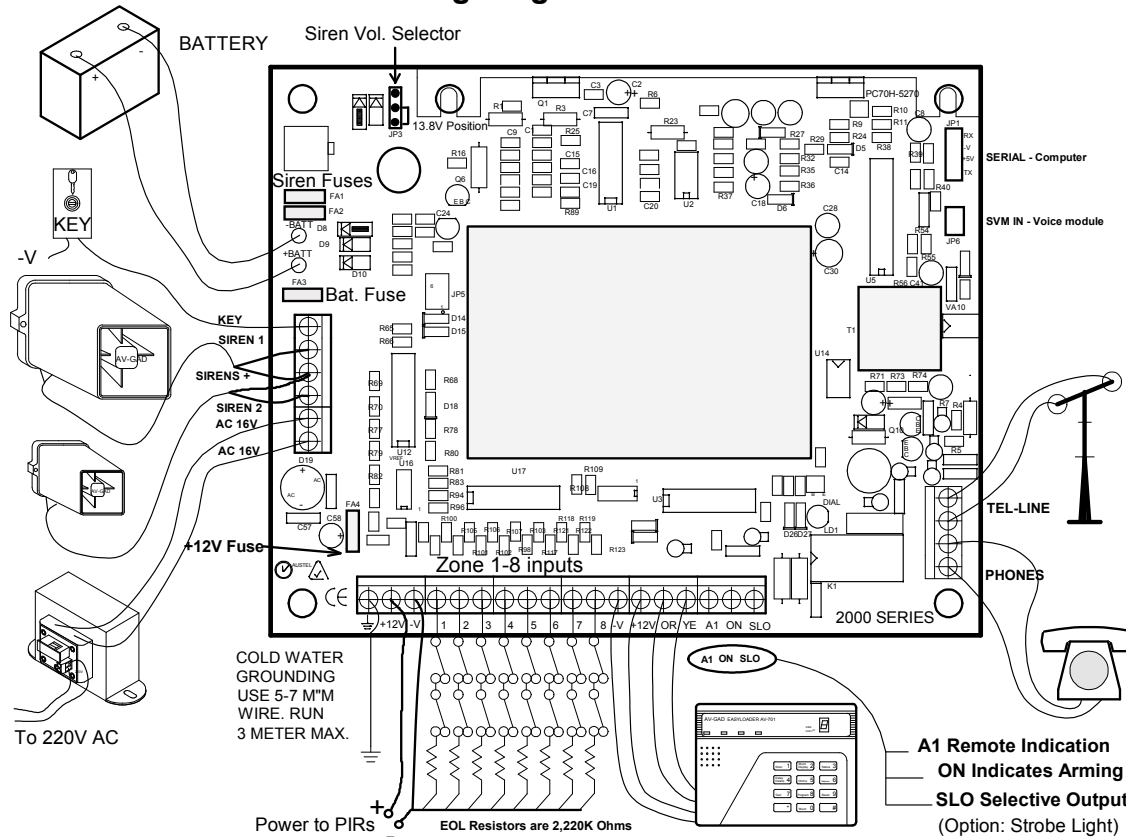
Mail: POB 49 080, Tel-Aviv 61 490, Israel. **Web site:** www.av-gad.com

SECTION V: WIRING DIAGRAM

Series 2000 Wiring Diagram

WARNING:

To prevent electrical shock, disengage the system power and disconnect the telephone line before servicing this unit



1• **Transformer:** Connect step-down transformer to a non-switched main outlet.

Make sure AC main power is fused and not connected to an automatic breaker

2• **Grounding:** Connect Ground from the board to Cold Water pipe (ground), using 2-2.5 mm² wire, as short a length as possible, and no longer than 3 meters

3• **Electronic Fuses:** Battery, +12V, Siren 1, Siren 2

4• **Battery:** Recommended Battery: Sealed Lead Acid type 12V - 7.2 AH

5• **E.O.L. Resistors:** To disable E.O.L. resistors, refer to programming sheet

6• **Keypad:** Connect maximum of three AV-701 or AV-707 keypads

7• **Remote Arming:** Use spring-return lock type; run wires of 20 meters maximum, or use wireless remote device to Arm/Disarm System

8• **Sirens:** Connect horn-type siren (speaker). If using Bell, adhere to maximum ratings (see page 15). Version 2.17 include new siren voltage selector

9• **Tel Line:** Dialing is applicable for DTMF and PULSE telephone systems

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AV-GAD LIMITED WARRANTY

Av-Gad Systems Ltd. (Av-Gad) warrants its products to be free from production defects in components, materials used and labor for twelve months following the date of production. Av-Gad will within the mentioned period, as its option, repair or replace any product failing to proper operation without charging the purchaser.

WARRANTY

This warranty shall not apply to any equipment, or any part thereof, which has been repaired by others, installed not properly, used improperly, abused, altered damaged or subjected to forces of nature or on which the serial and data code is altered or removed.

Av-Gad will not be responsible for any dismantling or reinstallation expenses. In order to exercise the warranty, the product must be returned by the purchaser, delivery and transportation costs will be prepaid and insured to Av-Gad.

After repair or replacement, Av-Gad assumes the cost of returning products under warranty.

There are no warranties, expressed or implied, which extend beyond the description of the face hereof.

There is no express or implied warranty of merchantability or a warranty of fitness for particular purpose. Additionally, this warranty is in lieu of all other obligations or liabilities on the part of Av-Gad.

Any action for breach of warranty, including but not limited to any implied warranty of merchantability, must be brought within three months following the end of the warranty period. In no case shall Av-Gad be liable to anyone for any consequential or incidental damages for breach of this or any other warranty, expressed or implied, even if the loss or damage is caused by the seller's own negligence or fault.

Av-Gad is not an insurer of either the property or safety of the user's employees, family, or 3rd part and limits its liability for any loss or damage including incidental or consequential damages to Av-Gad original selling price of the product regardless of the cause of such a loss or damage.

Av-Gad hereby declares that service, technical support and spare parts will be supplied for 60 month following the date of production. Price list for such services will be updated from time to time.