AV-104 DIALER & COMMUNICATOR

INSTALLATION INSTRUCTIONS V1.01

Item: 4741

(A4BKE)

Description

The AV-104 is a dialer (with siren sound or SVM voice message as alert on the phone) and communicator to central station. Remote control via DTMF enables remote on/off function. The AV-104 stores six numbers; up to four telephone numbers in dialer mode, and two numbers in communicator mode. As communicator the AV-104 support 4 zones/inputs and the major central station formats including the Contact ID. Dialing is Pulse or DTMF. The AV-104 is fully programmable via AV-701 or AV-702 keypad, after programming the keypad is not necessary. AV-104 is approved by TBR-21, CE, Austel. Line disconnect relay is included. Voice message is supported by adding the SVM-40 voice module. The AV-104 requires 12V – 300 mA power supply.
The AV-104 supplied as PCB, or AV-104B is boxed with power supply.

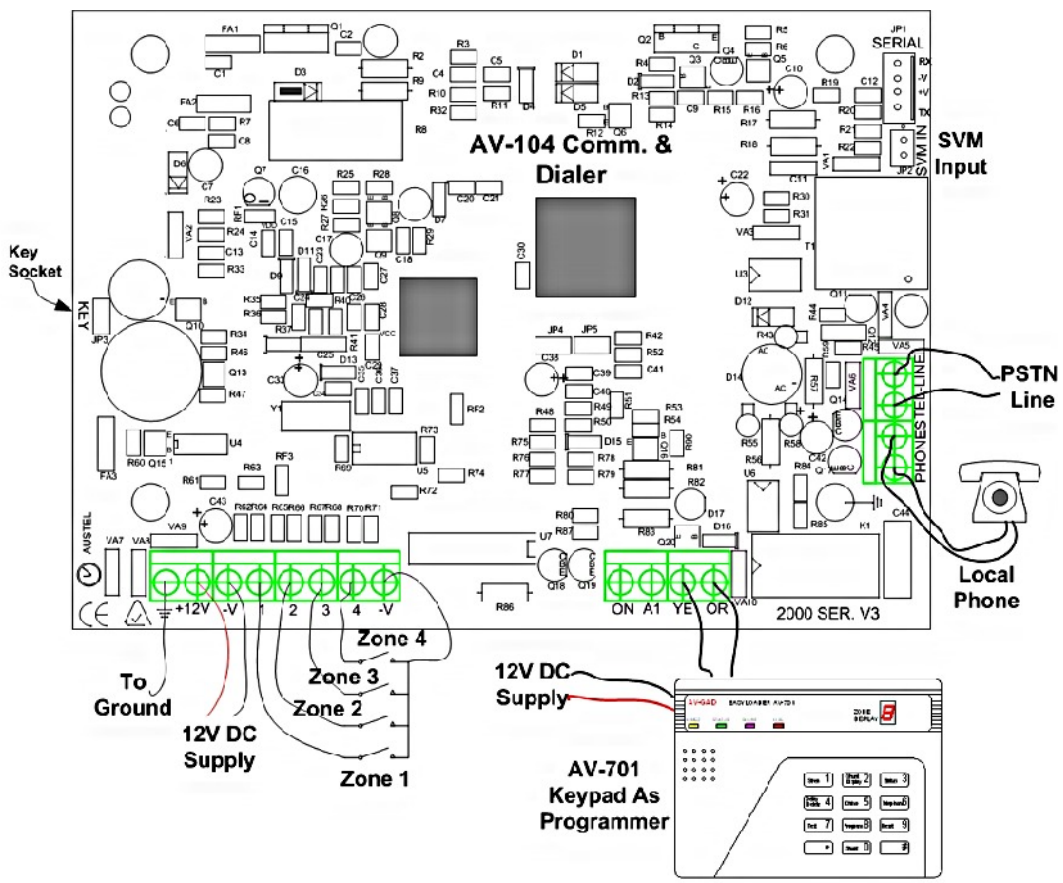

Figure 1: Wiring the AV-104

Accessing the AV-104 functions

User and programming default codes:
User code (default 1234)
Programming (installer) code (default 1994)
Once a valid code is entered, three lines are displayed. The user has 10 minutes to enter a command (the left red LED is lighted).

User/Installer codes: There are only two codes used to access the dialer functions. To change the codes enter to programming mode, go to address 099 to change the codes:
01 xxxxxx for user code
02 xxxxxx for installer code

Entering Installer (Engineer) Programming Mode

Easy Tip: You may program any address by entering the address then the value in sequence.
Wire an AV-701 keypad, power up by connecting 12V power as figure 1 show.

1. Hold down keypad key [Program 8] (hold-down function).
2. While the four LEDs are blinking, enter the programming code ('1 9 9 4'):
   [Siren 1] [Reset 9] [Reset 9] [Delay Delete 4] .
3. If the 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 will be displayed, and LEDs will blink.

Note: Blinking of two (2) left most LEDs, means system is waiting for new address to be entered;
Enter a three (3) or two (2) digit address (according to address length.)
Note: Three (3) blinking LEDs means system is waiting for new value to be entered;
Enter a 2-digit value, or as required.

SVM Wiring

The AV-104 supports one or two messages via the telephone, to control the message channel use the A1 and ON terminals in the AV-104. SVM channel 1 is trig via ON output; SVM channel 2 is trig via A1 output.
When the SVM is interfaced to the AV-104 refer to the SVM installation manual for full details.

Keypad Functions

"9": Reset dialer: Stops all activity and clears the inputs status.
"0"+"1": Sets dialer internal time (used for the history log)
"0"+"2": Sets dialer date
"0"+"0": Display Dialer's events log; inputs that caused alerts or reports to CS and set time, programming mode and factory default events
"3": Display status of inputs
"6": Displays the first telephone number (used for Siren/SVM alerts)
"6"+"6"+XXXXX: Programs the first telephone number
"6"+"7" for Dial Test: Set Dialer to dial to siren/SVM alert telephone numbers
"6"+"8" for Control Station test
"7": Enters "Fault Find" mode: Testing the response of the inputs, without triggering alerts or reports. Can be activated only 10 seconds after dialer Reset
"8"+ 1994 enters Installer or User programming mode
200 + 04: Delete the events history log
200 + 05: Reset codes to factory default (or power down than power up with Panic hold-down)
200+ 69: Reset the AV-104 to factory default software settings

LEDs Status Display

Red Led (Armed)
Steady: Enter any function without code
Blinking: Telephone line fault

Green LED (Status)
Steady - No Zone/Input events
Blinking: Inputs caused dialer alerts and/or CS reports

Yellow Led (Shunt)
Displays status of the Alerts (Siren/SVM) dialing
Steady: Dialer is active
Blinking: Dialing a telephone number
Blinking fast: Sounding SIREN/SVM

Red Led (Fire)
Display status of reporting to Central Station
Steady: Central Station reporting in course
Blinking: Dialing a telephone number
Blinking fast: Transmitting data to the Central Station

DTMF remote control

To reset the dialer using the commands 1 or 6 (followed by #), at the end of Siren/SVM cycles, enter a valid (user / installer) code followed by a #.

Resting the AV-104 with Key Terminal

Key input: Shortening the key input two pins Reset the dialer, useful if the keypad is not connected.

Programming Sheet Version 3.00

Values that are displayed in the programming table or under Def column are the factory default programming; Blank Square means no default program, line marked section are not programmable.

1. TELEPHONES [dialer and Central Station (CS)]

Tel. 1	Tel. 2	Tel. 3	Tel. 4	CS Telephone 1	CS Telephone 2
011	012	013	014	015	016

Address 011, 012, 013 and 014 are for dialer, 015 & 016 are for central station receiver telephone numbers.

Each telephone number length can be up to 32 digits long Digits * and # will be dialed only in DTMF dialing mode.

To insert a Pause: Press and hold the '0' key. To add a '*' sign press and hold the '1' key. To add a '#' sign press and hold the '3' key. To erase a telephone number: Press and hold the '9' key after entering the address.

2. INPUT/ZONE FEATURES

		Input/Zone			
Feature	**Address**	**1**	**2**	**3**	**4**
Inputs (zone) in use	020	1			
Dial during On (open/alarm)	021	1	2	3	4
Dial during Off (close/restore)	022				
Siren sound via telephone	023	1	2	3	4
Sound SVM channel 1 message (trig via ON)	024				
Sound SVM channel 2 message (trig via A1)	025				
Normally Open Zone / Inputs	026	1	2	3	4
Inputs with EOL resistors	027				

3. TIME-OUTS and SVM SETTINGS

Receive Level CS Comm.		Contact ID send Delay		Siren Output Time		SVM 1 Output Time		SVM 2 Output Time	
Unit		10 mS		Sec's		Sec's		Sec's	
000		001		040		041		042	
0	3	0	5	1	0	1	0	1	0

4. TEST SIGNALS

Signal Test to CS each hour	Signal Test to CS at preset Time (24H format) HH:MM	Signal Test to CS on set Days of the Week
049	050	052
00 = No, 01 = Yes	(0001 means 00h 01 min)	Sun=1, Mon=2… Every week Every day = 8, 0=Never

Note: Most common CS protocol is Contact ID, the other central stations full codes table is not included in this short forum manual. If required Av-Gad Technical Support

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	Rings qut'y for modem	Instant modem answer	Ring Cycle Width
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	00=No 01=Yes	100 mS (1-25)
080	081	082	083	084	085	086	087	088	089	090	091	092	093
03	04	10	01	01	50	20	03	08	12	20	10	01	20

Tel. Line Test Intervals	Min. Ring Length	Rings Time Out
Minutes (Max 99)	10 mS (Max 20)	Seconds (4 to 25)
094	095	096
00	02	10

Note address 091: The download is ENABLED by default. Setting 21 at address 091 disables modem (because 21 ring for modem not accepted by telephone net). To ENABLE enter 01 to 20 at address 091. For Instant Modem Answer (Answer Now): Enter 01 in address 092, hold-down key 6 then hold-down key 1, 'A' displayed in confirmation. For special application, address 093 set the ring detector pulse width.

6. SYSTEM AND DIAL FEATURES

DEF means the factory Default Settings

Feature (00=NO, 01=Yes)	Add	Def	Feature	Add	Def
Enable double report to CS	053	00	Pre dial time (seconds)	080	03
Enable DTMF remote control	054	00	Wait for dial tone (seconds)	081	04
Enable AC test report using SVM40	055	00	Anti Jam Time (seconds)	082	10
Enable Battery Test	056	00	Dial tone find 1 (yes/no)	083	01
Enable commands w/o codes	057	01	Dial mode (Tone = 1, Pulse = 0)	084	01
Enable codes restore at Power Up	058	01	Minimum call time (seconds)	085	60
Inputs response time (X 100 mS)	060	10	Time between calls (seconds)	086	20
Contact ID type for Input 1 **	061	13	Number of rounds to dial and alert	087	03
Contact ID type for Input 2 **	062	13	Pulse dial "Make" time (X 5 mS)	088	08
Contact ID type for Input 3 **	063	13	Pulse dial "Break" time (X 5 mS)	089	12
Contact ID type for Input 4 **	064	13	Inter digit time (X 50 mS)	090	20
Reset time for On (open) events (min.)	069	01			
Reset time for Off (close) events (min.)	070	01			
AC Fail report delay (min.)	071	10			

** See table "Contact ID Codes Entries Table" at page 5. MS = Mili Seconds

7. REPORT SELECTION

Group 1		Group 2

Report on Alarm 105									Report on AC and Battery fail 106							
1	2	3	4					ZONE	AC	LB						
1	2	3	4					VALUE								

Report Zone Restore 107									Restore Report on AC and Battery fail 108							
1	2	3	4					ZONE	AC	LB						
1	2	3	4					VALUE								

8. COMMUNICATOR TO CENTRAL STATION PARAMETERS (ADD is address DEF means the factory Default Settings)

Settings for CS Telephone 1	Add	Def	**Settings for CS Telephone 2**	Add	Def
CS receiver format	201	07	CS receiver format	202	07
Handshake 00=1400, 01=2300 02=Hi Lo	203	02	Handshake 00=1400, 01=2300 02=Hi Lo	204	02
Data Format (3x1, 4x1, 4x2)	205	02	Data Format (3x1, 4x1, 4x2)	206	02
Protocol 00=standard, 01=Extended	207	00	Protocol 00=standard, 01=Extended	208	00
Check Sum 00=none, 01=Parity	209	01	Check Sum 00=none, 01=Parity	210	01
Report Rounds 00=2, 01=1 rounds	211	00	Report Rounds 00=2, 01=1 rounds	212	00
Inter rounds pause 0.1 Second	213	30	Inter rounds pause 0.1 Second	214	30
Wait for handshake Tone (Second)	215	20	Wait for handshake Tone (Second)	216	20

Central station receiver format Index:
01 - Ademco, Silent Knight Slow, Scantronic
02 - Radionics Fast
03 - Sescoa, Vertex, DCI, Franklin
04 - Silent Knight Fast
05 - Radionics, DCI, Franklin Slow
06 - Universal High Speed
07 - Contact ID (CID) or Ademco High Speed

Data Format Index: 00=3 X 1, 01=4 X 1, 02=4 X 2, 03=3 X 2
The communicator can report using different formats for each Central Station, identifying itself by different Subscriber Id.

The other central stations full codes table is not included in this short forum manual. If required Av-Gad Technical Support

9. SUBSCRIBER ID CODES

Setting for CS Telephone 1

Alarm / Restore ID				Alarm / Restore ID			
260	261	262	263	268	269	270	271

EASY Program				EASY Program			
Alarm / Restore ID				AC & LB Fail			
360				368			

Setting for CS Telephone 2

Alarm / Restore ID				Alarm / Restore ID			
264	265	266	267	272	273	274	275

EASY Program				EASY Program			
Alarm / Restore ID				AC & LB Fail			
360				368			

To easily program the subscriber ID number, as a sequence of 4 digits use the EASY Program.
Even if your code is 3 digits only you must enter 4 digits, the 4th digit can be any digit and the system will disregard the 4th digit. When using CID format, only subscriber codes for Inputs events are needed (360 and 364).

Contact ID Codes Entries Table

For each zone/input choose to report a CID code from a 33 entries table. The two digits code index (event) chosen must be programmed, for each individual input, at corresponding addresses 061 through 064.
For example; Reporting zone/input 1 Burglary (code 130), program 13 at address 061. Reporting Panel Arm/Disarm from zone/input 3, program 25 at address 063.

<u>100 - Medical Alarms</u>
00 - 100Medical emergency
01 - 101Personal Emergency

<u>110 - Fire Alarms</u>
02 – 110 Fire Alarms
03 – 111 Smoke Alarm
04 – 112 Combustion
05 – 113 Water Flow
06 – 114 Heat
07 – 115 Pull station
08 – 116 Duct
09 – 117 Flame

<u>120 - Panic Alarms</u>
10 - 120 Panic Alarms
11 - 121 Forced (duress) Opening
12 - 122 Silent

<u>130 - Burglar Alarms</u>
13 - 130 Burglary zone alarm
14 - 131 Perimeters
15 - 132 Interiors
16 - 133 24-hour zone alarm (safe)
17 - 134 Entry/Exit zone alarm
18 - 135 Day/night
19 - 136 Outdoor
20 - 137 Tamper Alarm

<u>140 - General Alarm</u>
21 - 140 General Alarms

<u>300 - Troubles</u>
22 – 300 System trouble
23 – 301 AC Failure /Restore
24 – 302 Low Battery /Restore

<u>400 – Panel Open Close</u>
25 - 400 Open/Close
26 - 401 O/C by User
27 - 402 Groups O/C
28 - 403 Automatic O/C
29 - 407 O/C by Remote
30 - 408 Quick Arms
31 - 409 O/C by Key

<u>600 - Tests</u>
32 - 602 Periodical CS Test

AV-104 Priorities Logic

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

If the Dialer is currently set to alert using Siren and SVM1 and an input triggers a SVM2 request, then the number of repetitions will be reset and the dialer will dial again adding the new request to the alerts.

This means that every time inputs request an alert not yet active, the dialer will re-dial, so no subscriber will miss the event.

The Battery is tested (if enabled) one minute from the last Reset and each four hours after this.

Specifications

AV-104 Dialer & Communicator Specifications	
Operation Temperature	-10°C to 60°C
Maximum relative Humidity	80% @ 20°C
DC Power	Filtered 12V DC, +/– 10% Polarity and Surge protection
Maximum Current Consumption	200 mA at dial
Housing	Supplied as PCB. Optional: Boxed + AV21 power supply
Triggering Inputs (zones)	Four
Programming	Keypad AV-701, AV-702
Approvals	CE, TBR-21 and AUSTEL
Dialing numbers	Four dialer plus two communicator
Dialing Mode	Pulse or DTMF (programmable)
Central station formats	All Pulse type and Contact ID
Telephone Line Interface	Fully isolated with telephone line interface
Telephone Line Separator	Dry Contacts double relay
Dimensions AV-104 (as PCB)	130 X 82 m”m
Dimensions AV-104B (ABS box)	310 X 210 X 82 m”m