



**NAPCO**

**INSTALLATION INSTRUCTIONS**

**DD-1486 DIGITAL  
MICROCOMMUNICATOR**

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F.C.C. Ringer Equivalence No. 0.0B  
Registration No. AD898H-69595-AL-E

D.O.C. Certification No. 596 988 A

(c) NAPCO 1985

WI252C 11/89

## DESCRIPTION

### STANDARD FEATURES (Operation described on page 4)

- o Operates on either 6 or 12 volts dc unregulated filtered power.
- o Six zones:
  - oo Accepts either voltage or normally-open input on any zone (see page 3).
  - oo Reports every event.
  - oo Reports by zone.
  - oo Auto Reset on each zone.
- o Up to 8 dial-out attempts.
- o Can transmit multiple reports per call.
- o Compatible with all popular 1400Hz and 2300Hz digital receivers.
- o Line seizure and anti-jam. (See page 6 to extend anti-jam time.)
- o Output for local Mini-Sounder (see page 4).
- o Output for latching alarm memory indicator light (see page 4).
- o Low-battery voltage detection of minimum communicator operating voltage.
- o High-voltage and lightning protection.

### PROGRAMMED FEATURES (Operation and Programming described on pages 5-7)

- o Abort Delay Before Dialing time.
- o Restore Reporting.
- o Alarm Ringback (requires Mini-Sounder).
- o Low Battery Reporting.
- o Emergency Reporting.
- o Opening & Closing Reporting (see pages 3-4).

### SPECIFICATIONS

Current at idle	Less than 1mA
Current during standby for restore report	140mA
Current when transmitting	250mA
Operating voltage	5-18Vdc filtered, unregulated
Alarm input voltage	3-18Vdc
Available Mini-Sounder current	10mA
Switched output current	20mA @ 4Vdc
Low battery detection sensitivity	5.2Vdc
Zone activation output current	20mA
Carrier transmission level into 600 ohms	-6dBm
Acknowledge and kissoff detection sensitivity	-36dBm
Dial-tone detection sensitivity at 440Hz	-36dBm
Operating temperature range	0-70 degrees C.
Dimensions & Weight	1-3/8"Hx7"Wx3/4"D; 1.5 lbs

#### For Canadian Model Only:

Load Number*	4
CSA-Approved Power Supply	Aritech Model PG600-UL 562C fed via Magnetic Consultants Class 2 transformer Model MG1840-D2

\*The "Load Number" denotes the percentage of the total load allowed to be connected to a telephone loop that is used by the device. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all devices does not exceed 100.

## INSTALLATION PROCEDURE

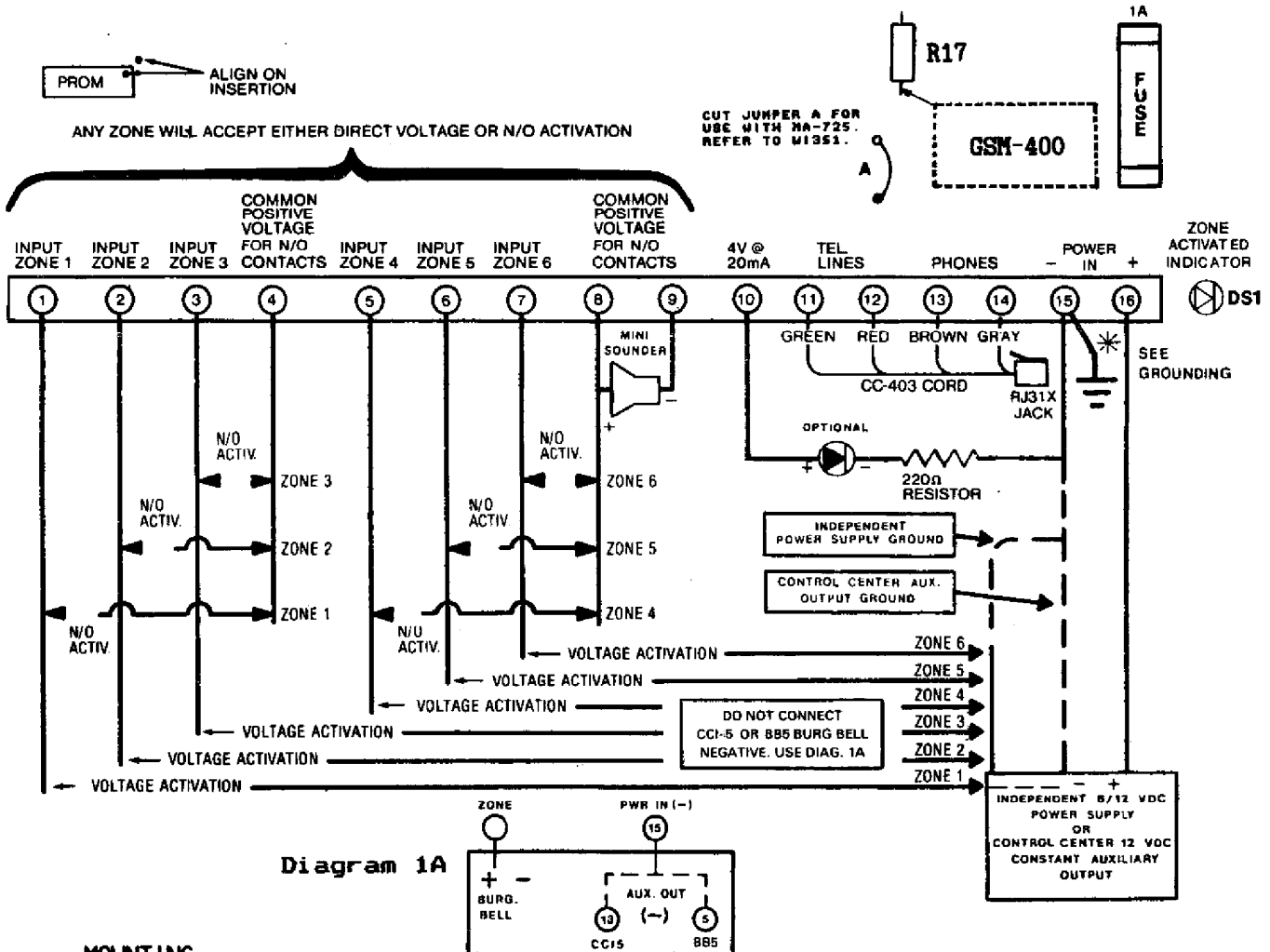
- (1) Mount the communicator. (See page 2.)
- (2) Determine the power source, wire inputs and options. (See pages 2-4.)
- (3) Ground the communicator. (See page 2.)
- (4) Connect telephone line (and ground start, if needed.) (See page 4.)
- (5) Program and install the subscriber PROM. (See pages 5-7.)
- (6) Follow proper power-up sequence to apply power to the unit. (See page 8.)
- (7) Perform system check. (See TROUBLESHOOTING GUIDE, pages 8-10.)

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# MOUNTING AND WIRING

The communicator can operate either as part of a control center or independently.

Diagram 1: WIRING DIAGRAM



## MOUNTING

If mounting the communicator inside a control center cabinet, use double-sided adhesive pads on the communicator case. If the communicator is not used with a control panel, it can be mounted to any flat surface using #10 round or pan head screws.

## Terminals 15 (-) and 16 (+): INPUT POWER

**CAUTION:** (1) Power connections should not be made at this point in the installation procedure. (See POWER UP SEQUENCE.) (2) The communicator must be properly grounded. (See GROUNDING.)

Connect communicator terminals 15 (-) and 16 (+) to one of the following two power source alternatives:

- (1) To the constant 12 volt DC auxiliary supply from a properly grounded control center.
- (2) To an independent 6 or 12 volt DC supply.

## GROUNDING

When not connected to a properly grounded control center, terminal 15 must be grounded to a cold water pipe. Do not use gas pipe, plastic pipe or hot water pipe. Use 16 gauge cable. Leave 12 inches of slack in the ground wire to absorb any movement in the pipes.

Terminals 1 through 8 (+) and 15 (-): INPUT ZONE ACTIVATION

As shown in Diagram 1, any zone can be activated by any of these methods:

(1) Normally open input from an isolated (dry) contact: Normally open inputs for zones 1, 2, and 3 share common positive activation terminal 4; those for zones 4, 5, and 6 share common positive activation terminal 8.

Opening/Closing Reporting uses normally open inputs. (See OPENING/CLOSING REPORTING.)

(2) Alarm voltage output (positive) to the individual communicator input zone: The common activation terminals (4 and 8) are not used. Alarm voltage negative connections are made as follows:

(a) If the communicator is powered by a control center, alarm input voltage negatives share a common connection through the control center negative auxiliary output.

(b) If a control center does not power the communicator, alarm voltage activation negatives must be grounded at terminal 15 of the communicator.

(c) CCI-5, BB-5 burglary bell: Do not connect the burglary bell negative return as this will bypass the burglary bell fuse. Instead, connect the auxiliary output negative from the CCI-5 or BB-5 to communicator terminal 15. (See Diagram 1A.)

**OPENING/CLOSING REPORTING**

Diagram 2: CCI-4

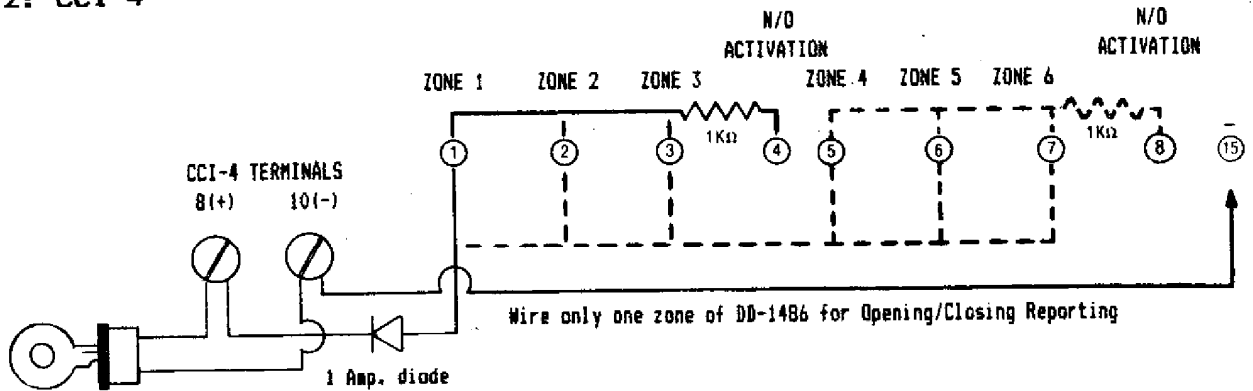
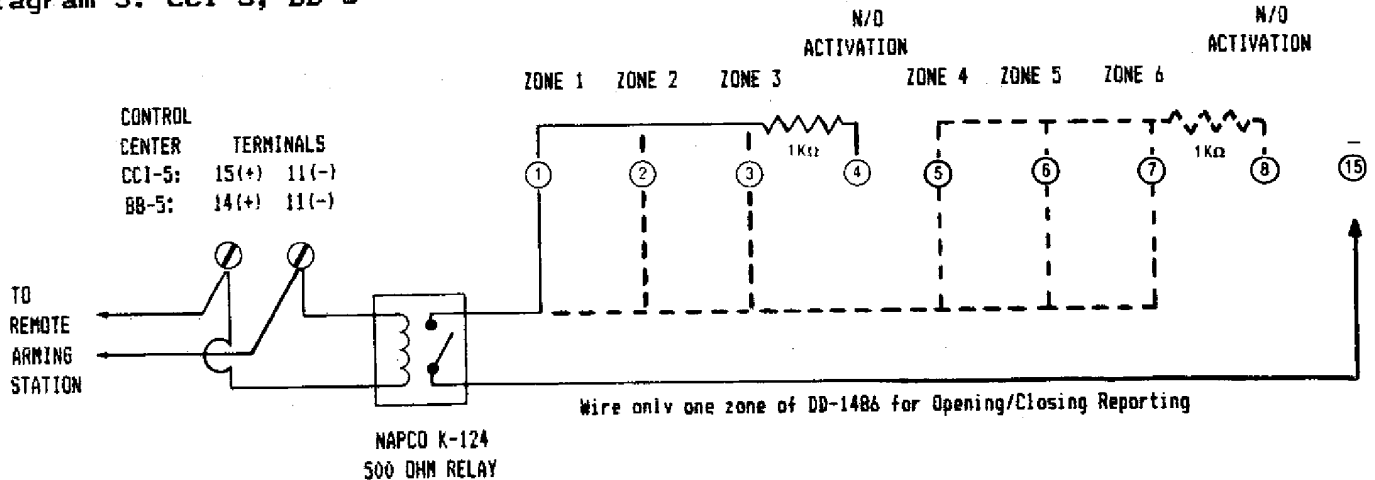


Diagram 3: CCI-5, BB-5



(1) For CCI-4, refer to Diagram 2; for CCI-5, BB-5, refer to Diagram 3.

(2) Connect Keyswitch to the proper terminals of the control center, as shown in the Diagrams. Do not exceed 50 ohm maximum circuit resistance.

(3) Select only one zone to report openings and closings. Run a second pair of wires between the keyswitch terminals and the zone selected as follows:

(a) CCI-4, only: Connect the keyswitch positive terminal of the control center (8) through a 1 amp. diode (Diagram 2) to the zone input terminal (1,

2, 3, 4, 5, or 6) on the communicator. Connect the keyswitch negative terminal (10) to communicator terminal 15.

CCI-5, BB-5: Use a Napco K-124 500 ohm relay to connect the reporting zone as shown in Diagram 3.

(b) CCI-4, CCI-5, BB-5: On the communicator, connect the opening/closing zone input terminal to the isolated (dry) contact terminal (terminal 4 for zone 1, 2, or 3, terminal 8 for zone 4, 5 or 6) using a 1000 ohm resistor.

(4) Mark programming sheet for Opening/Closing Reporting Zone this way: (See How to Complete Programming Sheet - TRANSMISSION CODES and RESTORE REPORT.)

(a) Select the zone for Restore Report.

(b) CCI-4: Closing code is programmed as an Alarm Code for that zone and Opening code as its Restore Code.

(c) CCI-5, BB-5: Opening code is programmed as an Alarm Code for that zone and Closing code as its Restore Code.

Terminals 8 (+) and 9 (-): **SOUNDER,**

Terminals 10 (+) and 15 (-): **SWITCHED OUTPUT OPTIONS**

When the Alarm Ringback is selected by programming, a Mini-Sounder must be connected to communicator terminals 8 (+) and 9 (-) as shown in Diagram 1.

When any zone is activated the DD-1486 applies 4 volts at up to 20 milliamps. of pure DC across terminals 10 (+) and 15 (-). Power remains on those terminals until all zone inputs are removed. A light emitting diode or relay module can be connected to these terminals. (See Diagram 1.)

Power at these terminals is not fused, but output will be interrupted if the fuse is blown or removed.

Terminals 11 through 14: **TELEPHONE**

Communicator terminals 11 through 14 must be connected to the telephone lines as shown in Diagram 1. To comply with FCC regulations, connect a NAPCO CC-403 cable to an RJ31X jack supplied by the telephone company. If FCC regulations do not apply, for example in private telephone networks or foreign countries, the incoming telephone lines can be connected directly to terminals 11 and 12 and the outgoing lines directly to terminals 13 and 14.

**CAUTION:** Do not connect the RJ31X jack or outgoing telephone lines until power is applied to the communicator. (See POWER UP SEQUENCE.)

If dial tone is not continuously active, ground start is needed. Connect a Napco GSM-400 Ground Start Module as described in the instructions supplied with the the module.

## OPERATION AND PROGRAMMING

### STANDARD FEATURES

The communicator waits 4 seconds for a dial tone. If none is detected, it will institute the anti-jam procedure to free the telephone circuit from incoming calls, pause and again attempt to detect dial tone. After dial tone is detected or a second unsuccessful attempt, the communicator will proceed to dial. The 2-pole line seizure feature automatically seizes the telephone line from all on-premises telephones until the dialing-out sequence is complete.

After dialing, the communicator waits 32 seconds for an acknowledgement (handshake) signal from the receiver. **Multiple dial-out:** If no handshake is detected, the communicator will redial up to a maximum of 7 additional times.

**Multiple reporting:** The communicator transmits up to four rounds of four different condition reports each. A round consists of the subscriber code followed by the alarm code. The receiver will send an acknowledgement (kiss-off) signal after two identical rounds are received. If additional messages remain, the communicator begins transmission of the next round. If two or more zones are activated simultaneously, the zone priority feature causes the alarm on the zone with the lowest number to be reported first.

### PROGRAMMED FEATURES

The rest of this section describes operation of programmed features and gives instructions for the programming necessary to select each.

## How to Program

(1) Call the central station for the receiver format, subscriber number(s) and report codes. Choose the correct master PROM for the central station's receiver format. (See Ordering Information.)

(2) Complete the programming sheet. Use the instructions below (How to Mark Programming Sheet).

(3) Use a Napco Programmer to copy the master PROM onto the blank PROM packaged with your communicator. (See the Programmer manual for PROM copying instructions.) Remove the master PROM from the Programmer. The PROM that remains in the Programmer will be the subscriber PROM for your communicator after you have finished steps 4 and 5:

(4) Use the Programmer and its manual to program the entries you have marked on the programming sheet into matching locations on the subscriber PROM.

(5) When you have completed wiring and programming follow these steps to plug the install the subscriber PROM: (a) Locate the socket on the left-hand side of the communicator's circuit board. (b) Be sure that no power is applied to the communicator. (WARNING: Never remove or replace a PROM without first powering down the communicator.) (c) Line up the dot on the subscriber PROM with the dot near the communicator socket. (See Diagram 1.) (d) Without bending any pins insert the PROM into the socket.

(6) File the programming sheet as a permanent installation description.

### How to Fill Out the Programming Sheet

#### I. TRANSMISSION CODES

**ALARM CODES, RESTORE CODES (and OPENING/CLOSING CODES)** - The central station will supply event codes. These codes have 2 digits if the receiver uses one of these formats: (a) 4/2 Format: If, in addition, the Subscriber number is 4 digits, then mark location 116 for 4/2 Format. (See III. COMMUNICATOR OPTIONS.) (b) Extended Format: Extended Format codes have alarm type in the first location of each Alarm/Restore Code and zone number in the second location. For example, if you use "2" for burglary, use two digits to report a burglary on Zone 1 by marking:

000	001
2	1

Each zone should have an Alarm Code (or Opening/Closing Code) entered in the row of boxes for locations 000-011. If Low battery detection report is desired: (a) Fill box(es) for Low Battery circuit Alarm Code, (b) Follow the instructions for marking location 099. (See III. COMMUNICATOR OPTIONS - LOW BATTERY REPORTING.)

A Restore Code must be entered for any zone(s) to report restores or wired for Opening/Closing Reporting (Diagrams 2 and 3). You must also mark these same zones in the row of boxes for locations 100-101. (See III. COMMUNICATOR OPTIONS.)

#### II. SUBSCRIBER AND TELEPHONE NUMBERS

**SUBSCRIBER #1, SUBSCRIBER #2** - Each Subscriber identification number is assigned by the central station. When 4 digits are assigned for 4/2 Format: (a) Fill in the shaded box(es), (b) Mark location 116 for 4/2 Format. (See III. COMMUNICATOR OPTIONS.)

For Emergency Reporting only: (a) Enter Subscriber #2. (Subscriber #2 may have the same identification as Subscriber #1.) (b) Follow the instructions below to enter Telephone #2. (c) Mark location 117. (See III. COMMUNICATOR OPTIONS - EMERGENCY REPORTING.)

**TELEPHONE #1, TELEPHONE #2** - To enter Telephone #1, follow these steps: (1) For an optional 4-second pre-dial delay, mark the number 13 (letter 'd') in location 042. Every 'd' entered before the telephone number adds 4 seconds to the time before the dialing sequence begins. (2) If no access number is

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needed, mark the number 14 (letter 'E') for dial tone detection in location 043. (3) If the installation telephone service requires an access number (such as a '9') to obtain a dial tone: (a) mark number 13 (letter 'd') in the box for location 042, (b) mark the installation's access number in the box for location 043, (c) mark a number 14 (letter 'E') in the box for location 044. (4) Enter Telephone #1 after the number 14 (letter 'E').

For Emergency Reporting only, enter Telephone #2 in the same way you entered Telephone #1, but marking locations 060 through 077.

### III. COMMUNICATOR OPTIONS

**ABORT DELAY BEFORE DIALING** - If the cause of an alarm is removed during the abort delay period, an alarm transmission can be cancelled. A 16-second abort delay period can be selected for one or more zones. Circle location 092 or 093 on the programming sheet for each abort delay zone. To increase the length of the abort delay period: (1) Look at the Abort Delay Time Table on the programming sheet. (2) Find the desired Total Abort Delay Time in the right-hand column of this table. (3) Mark location 124 as shown in the table to the left of the desired delay time. (NOTE: Increasing the delay time also increases Low Battery Report delay.)

**RESTORE REPORT (and OPENING/CLOSING REPORT)** - Transmission on alarm is automatic. Any zone(s) can be selected to send a separate code when the zone restores. Circle location 100 or 101 for each zone to report on restore. If the Opening/Closing Reporting option is wired as shown in Diagram 2 or 3, Restore Report must be marked for the Opening/Closing Reporting zone. Enter a Restore Code for each zone circled. (See I. TRANSMISSION CODES, above.)

**ALARM RINGBACK** - Each zone can be selected to audibly verify when the central station receives an alarm transmission. If selected, the Mini-Sounder must be connected as shown in Diagram 1 and will sound for 6 seconds following "kiss-off" signal from the central station. Circle a location 102 or 103 box for each alarm ringback zone.

**LOW BATTERY REPORTING** - To select low battery condition reporting, (a) circle location 099 on the programming sheet, (b) enter an Alarm Code for the Low Battery detection circuit. (See I. TRANSMISSION CODES - ALARM CODES, above.) Reporting conditions: If selected, the low battery report will be sent at approximately 5.2 volts DC if another zone is also reporting. Low Battery reporting normally occurs after a 16-second Abort Delay Before Dialing, unless a longer delay time is programmed. (See ABORT DELAY BEFORE DIALING, above.) The circuit will automatically be reset when the DD-1486 shuts down after dialing.

**DIAL, 4/2 FORMAT, SUM CHECK FORMAT** - Box 116 is marked if the central station receiver uses the Sum Check feature or 4/2 Format or the installation telephone service uses Touchtone Dial.

**EMERGENCY REPORTING** - When Emergency Reporting is selected, the communicator dials Telephone #2 to reach a back-up receiver when it cannot get through to Telephone Number #1 on the first try. The communicator will dial the back-up receiver, if needed, a maximum of seven times. To select Emergency Reporting: (1) mark a number 1 in the box for location 117, (2) enter Subscriber #2 and Telephone #2. (See II. SUBSCRIBER AND TELEPHONE NUMBERS.)

**EXTENDED ANTI-JAM TIME** - Consult the central station to determine the time needed for anti-jam to work in your area. Enter a 1 in location 141 to increase anti-jam time from 4 seconds to 20 seconds.

# PROGRAMMING RECORD SHEET DD-1486 DIGITAL MICRO-COMMUNICATOR



## ALARM CODES

STANDARD

4/2 OR EXTENDED  
FORMAT REPORTING

ZONE ONE	ZONE TWO	ZONE THREE	ZONE FOUR	ZONE FIVE	ZONE SIX	LOW BATT.
000	002	004	006	008	010	012
001	003	005	007	009	011	013

## RESTORE CODES

STANDARD

4/2 OR EXTENDED  
FORMAT REPORTING

ZONE ONE	ZONE TWO	ZONE THREE	ZONE FOUR	ZONE FIVE	ZONE SIX
018	020	022	024	026	028
019	021	023	025	027	029

## SUBSCRIBER IDENTIFICATION NUMBERS

#1

034	035	036	037

#2

038	039	040	041

4th DIGIT  
4/2 FORMAT ONLY  
(see instructions)

CUSTOMER: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
DATE: \_\_\_\_\_

## 4-SECOND ACCESS NUMBER DIAL-TONE DETECTION PRE-DIAL DELAY FOR OUTSIDE LINE

FOR 1st TELEPHONE #

042

043

044

FOR 2nd TELEPHONE #  
(FOR EMERGENCY REPORTING ONLY)

060

061

062

ENTER "E" FOR  
DIAL TONE DETECTION  
(see instructions)

## TELEPHONE NUMBERS

1st TELEPHONE NUMBER

045	046	047	048	049	050	051	052	053	054	055	056	057	058	059

2nd TELEPHONE NUMBER  
(FOR EMERGENCY REPORTING ONLY)

063	064	065	066	067	068	069	070	071	072	073	074	075	076	077

## COMMUNICATOR OPTIONS

ABORT DELAY

ZONE ONE	ZONE TWO	ZONE THREE	ZONE FOUR	ZONE FIVE	ZONE SIX
092	092	092	092	093	093
1	2	4	8	1	2

RESTORE REPORT

ZONE ONE	ZONE TWO	ZONE THREE	ZONE FOUR	ZONE FIVE	ZONE SIX
100	100	100	100	101	101
1	2	4	8	1	2

ALARM RINGBACK

ZONE ONE	ZONE TWO	ZONE THREE	ZONE FOUR	ZONE FIVE	ZONE SIX
102	102	102	102	103	103
1	2	4	8	1	2

LOW BATT REPORT\*

099
4

116 2 TOUCHTONE\* DIAL\*  
4 4/2 FORMAT\*  
8 SUM CHECK FORMAT\*

117 1 EMERGENCY REPORTING

124 ABORT DELAY TIME

\*PRESS [PLUS] KEY ON PRO-410/410M PROGRAMMER BEFORE PRESSING DATA ENTRY.

Location 124	Total Abort Delay Time (Seconds)
1	17
2	18
3	19
4	20
5	21
6	22
7	23
8	24
9	25
0	26
a	27
b	28
c	29
d	30
e	31
f	31



## POWER-UP SEQUENCE

- (1) Remove the 1A Power fuse located at the right side of the communicator circuit board.
- (2) Connect a Napco PS-726 (6-volt dc) or PS-724 (12-volt dc) power supply, or Constant 12-Volt DC Auxiliary Output from the control center.
- (3) Replace the 1A fuse.
- (4) Connect the CC-403 cord to the RJ31X telephone jack.

## DD-1486 TROUBLESHOOTING GUIDE

Ask for Technical Service Department when calling for further information.

### DO THIS FIRST:

Check that master PROM has been copied onto communicator subscriber PROM:  
(1) Remove power from communicator, then remove subscriber PROM from communicator socket. (2) Verify that subscriber PROM location 251 is a 'd'. If not, copy the correct master PROM for receiver format onto a blank PROM and program this new subscriber PROM from the programming sheet. (3) With communicator power off, line up dots and replace PROM in socket.

Zone activation is indicated by light DS1 at the end of the terminal strip.

### SYMPTOM

### PROBLEM/REMEDY

(1) Communicator relay momentarily engages and disengages.

- (1) (a) Check for subscriber PROM in socket. (b) Straighten any bent pins. (c) Line up dot on PROM with dot on circuit board when placing PROM in socket.
- (2) Check that master PROM has been copied onto subscriber PROM. (See *DO THIS FIRST:* at the top of this guide.)
- (3) Check power supply voltage for ripple. Must have filtered DC input.

(2) Communicator does not report when alarm condition exists after the programmed abort delay time.

- (1) Check that master PROM has been copied onto subscriber PROM. (See *DO THIS FIRST:* at the top of this guide.)
- (2) Trace leads from input source.

Normally-open contact zone: One lead should go to communicator input zone and the other to common positive activation terminal 4 or 8.

Alarm voltage activation zone: (a) Positive input should go to the zone. Voltage input at zone terminal must be free from transient interference. (b) Independently powered communicator: Negative alarm return must be connected to terminal 15. Powered by control center: Negative return is connected to control center negative auxiliary output. CCI-5 or BB-5 burglary bell alarm: Negative alarm voltage is not connected, but control center negative auxiliary output must be connected to communicator terminal 15.

- (3) Check for power at input activation when input zone is activated. (Normally-open contact zone: Check common positive activation terminal 4 or 8. Alarm voltage activation zone: Check input zone terminal.) If no power, use a voltmeter to check for correct input voltage at terminal 16. Replace power supply or communicator's 1A fuse if necessary.

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(3) Communicator fails to dial out when activated.

- (1) Check PROM locations beginning at 042. A letter 'E' (number 14) must precede first digit of telephone number for dial tone detect. If more time is needed, a letter 'd' (number 13) should be entered before the 'E'.
- (2) Read the number in subscriber PROM location 116: Subtract the number entered for 4/2 or Sum Check Format, if used. Result should be 1 for Rotary or 3 for Touchtone. Check compatibility with telephone service.
- (3) Connect handset to terminals 11 and 12 and dial out. If handset cannot dial out, telephone line is bad. Call phone company.

(4) Communicator dials 8 times but does not report.

Use handset on terminals 11 and 12 to listen as communicator dials.

- (1) Telephone rings and receiver gives tone: Subscriber PROM is not recognizing handshake. Call central station for receiver type and check Ordering Information for correct Master PROM.
- (2) Radio noise on telephone line: Call Technical Service.
- (3) Wrong number dialed: Check subscriber PROM locations beginning in 044 for correct telephone number.

(5) Communicator sends extra rounds.

Connect handset to terminals 11 and 12.

- (1) If receiver does not send "kiss-off", Sum Check Format needed. Subscriber PROM location 116 should be a 9 with Rotary dial or a letter 'b' (number 11) with Touchtone dial.
- (2) If communicator sends four additional rounds without redialing after receiver sends "kiss-off" and goes off-line, receiver is not able to accept multiple reports. Communicator is functioning properly.
- (3) Receiver tone does not meet specifications. Call central station.

(6) Subscriber and event code reported incorrectly.

- (1) Check subscriber PROM locations as follows: 000-011 must have an Alarm Code for every zone. If Low Battery Report is selected in 099, the Low Battery detection circuit must have an Alarm Code beginning in 012. Every zone selected for Restore Report in 100-101 must also have a Restore Code in 018-029.
- (2) If receiver uses 4/2 Format: (a) Location 116 must be a 5 for Rotary dial or a 7 for Touchtone dial. (b) All Alarm and Restore Codes must have two digits. (c) Subscriber Number(s) must have four digits.

(7) Zone does not report restore when alarm condition is removed.

Check subscriber PROM: (a) Locations 100-101 must have all Restore Report zones selected. (b) Locations 018-29 must have a Restore Code for every zone selected in 100-101.

(8) Optional switched output light (terminals 10 and 15) fails to go out after transmission.

- (1) Check that master PROM has been copied onto subscriber PROM. (See "Do this first" on the top of this guide.)
- (2) More than one zone is activated. Remove input on all zones. (Usually done by resetting control center.) Light should now go out.

(9) Optional switched output light (terminals 10 and 15) fails to light upon alarm.

(1) Check polarity of light emitting diode. Connect positive lead to terminal 10, negative to terminal 15. Use a 220 ohm resistor between the light and terminal 15.

(2) Activate zone and use voltmeter to check for 4 to 5 volts at terminal 10.

(10) Mini-Sounder does not activate upon central station "kiss-off" after alarm transmission.

(1) Positive lead for sounder must go to terminal 8 and negative lead to terminal 9.

(2) Activate zone and check for positive voltage at terminal 8. If present, sounder may be defective.

(11) Touchtone telephone does not work after installation.

During installation of either the RJ31X jack or the communicator, the telephone lines were reversed.

### ORDERING INFORMATION

DD-1486                      Digital Communicator, 6-Zone  
PRO-410/410M              PROM Programmer  
PF-135                        Programming Sheet, 100/pad  
DD-491                        Blank (Subscriber) PROM

DD491 blank PROM may be formatted from any of the master PROMs. Choose the specific PROM master for central station receiver format from the list below:

MASTER PROM	RECEIVER FORMAT	RECEIVE/ TRANSMIT	DUTY CYCLE ON/OFF	INTERDIGIT TIME
1484/6-1	Ademco Format with Pulsing Hold	1400/1900Hz	51/49mS	600mS
1484/6-2	Ademco, Adcor, Vertex, & Silent Knight "slow" format	1400/1900	51/49	600
1484/6-3	Sescoa, Vertex, DCI, & Franklin "fast" format	2300/1800	30/20	800
1484/6-4	Radionics "super fast" format	2300/1800	13/12	400
1484/6-5	Silent Knight "fast" format	1400/1900	40/30	560
1484/6-6	Radionics, DCI, & Franklin "slow" format with Steady Hold	2300/1800	51/49	600

The Master PROM constitutes proprietary information of NAPCO and is protected by copyright law. Unauthorized use of the PROM in other than NAPCO products is strictly prohibited.

PS-726/PS-724              Power Supply: 6Vdc/12Vdc  
SNP-428                        Mini-Sounder  
CC-403                         Telephone Connection Cord  
K-124                          500-Ohm Relay  
GSM-400                        Ground-Start Module

## NAPCO LIMITED WARRANTY

**N**APCO SECURITY SYSTEMS, INC. (NAPCO) warrants its products to be free from manufacturing defects in materials and workmanship for fifteen months following the date of manufacture. NAPCO will, within said period, at its option, repair or replace any product failing to operate correctly without charge to the original purchaser or user.

This warranty shall not apply to any equipment, or any part thereof, which has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to acts of God, or on which any serial numbers have been altered, defaced or removed. Seller will not be responsible for any dismantling or reinstallation charges.

In case of defect, contact the security professional who installed and maintains your security system. NAPCO shall have no obligation under this warranty, or otherwise, if the product has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to accident, nuisance, flood, fire or acts of God, or on which any serial numbers have been altered, defaced or removed. NAPCO will not be responsible for any dismantling, reassembly or reinstallation charges.

In order to exercise the warranty, the product must be returned by the user or purchaser, shipping costs prepaid and insured to NAPCO. After repair or replacement, NAPCO assumes the cost of returning products under warranty.

*There are no warranties, express or implied, which extend beyond the description on the face hereof. There is no express or implied warranty of merchantability or a warranty of fitness for a particular purpose. Additionally, this warranty is in lieu of all other obligations or liabilities on the part of NAPCO.*

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

*This warranty contains the entire warranty. It is the sole warranty and any prior agreements or representations, whether oral or written, are either merged herein or are expressly cancelled. NAPCO neither assumes, nor authorizes any other person purporting to act on its behalf to modify, to change, or to assume for it, any other warranty or liability concerning its products.*

In no event shall NAPCO be liable for an amount in

excess of NAPCO's original selling price of the product, for any loss or damage, whether direct, indirect, incidental, consequential, or otherwise arising out of any failure of the product. Seller's warranty, as hereinabove set forth, shall not be enlarged, diminished or affected by and no obligation or liability shall arise or grow out of Seller's rendering of technical advice or service in connection with Buyer's order of the goods furnished hereunder.

**NAPCO RECOMMENDS THAT THE ENTIRE SYSTEM BE COMPLETELY TESTED WEEKLY.**

**Warning:** Despite frequent testing, and due to, but not limited to, any or all of the following; criminal tampering, electrical or communications disruption, it is possible for the system to fail to perform as expected. NAPCO does not represent that the product/system may not be compromised or circumvented; or that the product or system will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; nor that the product or system will in all cases provide adequate warning or protection. A properly installed and maintained alarm may only reduce risk of burglary, robbery, fire or otherwise but it is not insurance or a guarantee that these events will not occur. **CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE, OR OTHER LOSS BASED ON A CLAIM THE PRODUCT FAILED TO GIVE WARNING.** Therefore, the installer should in turn advise the consumer to take any and all precautions for his or her safety including, but not limited to, fleeing the premises and calling police or fire department, in order to mitigate the possibilities of harm and/or damage.

NAPCO is not an insurer of either the property or safety of the user's family or employees, and limits its liability for any loss or damage including incidental or consequential damages to NAPCO's original selling price of the product regardless of the cause of such loss or damage. If the user wishes to protect itself to a greater extent, NAPCO will, at user's sole cost and expense, obtain an insurance policy to protect the user, supplemental to user's own policy, at a premium to be determined by NAPCO's insurer upon written notice from user by Certified Mail, Return Receipt Requested, to NAPCO's home office address, and upon payment of the annual premium cost by user.

Some states do not allow limitations on how long an implied Warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, or differentiate in their treatment of limitations of liability for ordinary or gross negligence, so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.