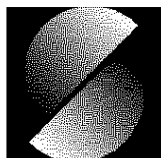


# INSTALLATION INSTRUCTIONS

## DIGI-KEY-IV-F

### USED FOR

<b>AV8000</b>	<b>AV3000</b>	<b>PAS-1/WC</b>
<b>AV4000</b>	<b>AV3000UL</b>	<b>CP10000</b>
<b>AV6000</b>	<b>AV3100E</b>	



**SENTROL**

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## FEATURES

Independent Installer Code  
Capable of Reviewing Programmed Information  
Single or Group Bypass  
Four (4) Emergency Conditions Plus Duress  
Eight (8) User Codes  
Multi-Premise Capability  
Wide Viewing Angle LEDS  
Full System Status at a Glance  
Built In Piezo Sounder with Defeat  
Four (4) Wire Installation  
Attractive Design with Neutral Color

## SPECIFICATIONS

Operating Voltage:	8-16 VDC
Current Consumption:	80 MA
Temperature Operating Range:	35°F to 135°F; U.L. Installations - 32°F to 120°F
Environment:	For Indoor Use Only
Dimensions:	5" x 4.65" x .575"
Shipping Weight:	7 oz.

## GENERAL DESCRIPTION DKIV-F

The Digi-Key-IV-F is an E.E. Prom Digital Arming Station that provides full system status from one or more convenient locations. The Digi-Key-IV-F can be uniquely programmed to meet a wide range of residential and commercial applications.

*Read and become familiar with the information contained in the DKIV-F User's Manual before proceeding with the installation instructions.*

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## SECTION I - MOUNTING INSTRUCTIONS

1. Remove DKIV-F from packing box; verify that all contents were shipped:  
Four (4) #6 x 32 x 1" Pan Head Screws  
One (1) Door label for zone identifications  
One (1) Emergency keypad label
2. Remove the four (4) #6 x 32 1/2" screws which separate the front and rear covers of the plastic case.

### SURFACE MOUNT INSTALLATION

1. Using the rear cover plate as a template, mark the two mounting holes. The approximate mounting height is between 48 and 54 inches from the floor to the top of the keypad.
2. Insert the control wire through the rear cover plate. Fasten the plate using appropriate hardware (Not supplied).

### FLUSH MOUNT INSTALLATION

1. The front cover plate may be mounted directly onto a double gang box using the four #6 x 32 x 1 screws provided.

Refer to the chart below for control panel wiring.

### INSTALLATION INSTRUCTIONS CONNECTING THE DKIV-F TO THE ARROWHEAD CONTROL PANELS

**CAUTION:** Connections must be made with all power removed.

**NOTE:** Refer to panel installation instructions or inside panel cover for wiring diagram.

Connect the DKIV-F as outlined below.

DKIV-F	AV-8000	AV-8000	AV-4000	AV-3000 AV-3000-UL AV-3100E
RED LEAD	TERM 10	TERM 8	TERM 8	TERM 9
BLACK LEAD	TERM 8	TERM 4	TERM 9	TERM 12
BLUE LEAD	TERM 12	TERM 10	TERM 10	TERM 11
YELLOW LEAD	TERM 11	TERM 9	TERM 11	TERM 10

## FACTORY PROGRAMMED VALUES

ALL DKIV-F's ARE INITIALLY FACTORY PROGRAMMED AS FOLLOWS:

- A. Single Premise operation.
- B. Installer Access Code of (1111).
- C. Primary Access code of 123.
- D. All Burg Zones enabled for bypassing.
- E. Secondary Access Codes - Unprogrammed.
- F. Zone LEDS - Enabled.
- G. Product Compatibility set for current AV6000/8000 with 3135 Microprocessor.
- H. Station I.D. Digit set to 1.

## SECTION II - PROGRAMMING THE DKIV-F

### GENERAL

#### 2.0 INTRODUCTION

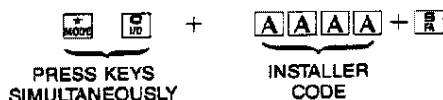
Whether you are an experienced installer/programmer or a newcomer, you will find programming and installing the DKIV-F simple and easy to understand. For those familiar with programming Arrowhead or other products a reading of Section II with an occasional glance at Section III (DEFINITIONS) is probably all that is necessary. For those that are new to programming, a thorough reading of Sections II and III is recommended.

Programming the DKIV-F requires the use of a programming overlay. (See Figure 1). A free permanent overlay for the DKIV-F is available from your distributor or Arrowhead. Place the overlay on to the keypad before beginning programming.

#### 2.1 KEYPAD PROGRAMMING MODE

The DKIV-F keypad is shipped with all zone LED's enabled for programming. The following sections use the default value for the installer code (1111) for programming.

The DKIV-F must be placed in the "PROGRAM" mode in order to program the keypad. This is accomplished by entering the following key sequence:



Successful entry into the keypad programming mode will be indicated by LED's 80 and 90 on with the piezo sounder beeping.

When programming is complete, return DKIV-F to the normal mode as follows:

Press 4 and 5 simultaneously.

Press F key.

**NOTE:** Failure to return the DKIV-F to the normal mode will result in improper operation. If this occurs, reprogram DKIV-F to the program mode and repeat above in proper sequence.

## DISPLAY

### 2.2 LED ARRANGEMENT

The two columns of 9 red LED's may be thought of as a two-digit decimal display with the left column representing the tens' digit and the right column representing the units' digit. The top right LED represents a "one", the bottom right LED represents a "nine". When all LED's are off, a "zero" is being displayed. There are two display modes indicated by the yellow LED; Memory location and data. When the yellow LED is on, either blinking or steady, the display is showing a memory location; when the yellow LED is off, the display is showing data in a memory location. A blinking LED indicates a Memory Location that exceeds 99. For example, the figure below (which has a steady yellow LED) indicates memory location 76 (• indicates the LED is on). Remember: LED's 80 and 90 are always on in the keypad programming mode.

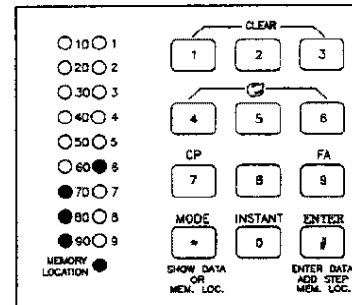


FIGURE 1

The "MODE" key is used to switch back and forth between these two display modes. When in the memory location mode, the display shows the current memory location and the keypad can be used to move to any desired location.

When in the data mode (the yellow LED off) the display shows the contents of the current memory location and the keypad can be used to modify data. The EEPROM is capable of storing two types of data, each of which is displayed and manipulated differently.

#### 2.3 NUMERIC DATA

NUMERIC DATA is used to store access codes, station ID digit, abbreviated arming, etc.

#### 2.4 SELECTION DATA

SELECTION DATA displays specific data selected for special functions (chime zone or bypass zone select for example).

DISPLAY of Selection data uses only the top 8 LED's of the right hand column and specifies the functions selected.

#### 2.5 CHANGING MEMORY LOCATIONS AND VIEWING DATA

Changing Memory Locations and Viewing Data is accomplished in the following manner. If the display is not showing, a Memory Location (Yellow LED ON), press the Mode key.

THE NUMERIC KEYS enter numbers into the display in the same way as a standard calculator; that is, each entry shifts the contents of the units' digit into the tens' and then places the new entry in the units' digit. For example: To go to location 76, enter 076. To go to location 1, enter 001.

**NOTE:** To avoid confusion, each entry should be 3 digits long.

## 2.6 PROGRAMMING NUMERIC DATA

The following example shows how to program User 1 Access Code. The Primary Access Code is to be 5250.

A review of the programming worksheet shows that User 1 Access Code starts in memory location "17". To program User 1 Access Code, display memory location "17". Next, press the MODE key to switch the display to show data. Next, press key 5, press ENTR, press key 2, press ENTR, press key 5, press ENTR, press key 0, press ENTR. Notice that the digit "0" is displayed as a 10.

## 2.7 REVIEWING THE DATA

In order to review User 1 Access Code or any other data, the following procedure is used. Go to memory location "17" (First digit of the access code). Switch the display to view data, a 5 will be displayed (first digit); press ENTR again, a 2 will be displayed; press ENTR, a 5 will be displayed. Every time the ENTR key is pressed, the memory location is advanced and the associated data is displayed. When the last digit is displayed, switch the display to show the Memory Location.

## 2.8 REPROGRAMMING NUMERIC DATA

It is not necessary to "clear" existing numeric data when reprogramming, just reprogram over the old data - unless the data is a one (1). In this case, the location must be first cleared (pressing keys 1 and 3 simultaneously), then enter the new data.

## 2.9 PROGRAMMING SELECTION DATA

The following example shows how to select Zones 2, 4 and 6 for Bypass. A review of the Programming Worksheet shows Bypass Functions are assigned to Memory Location 2.

Set the display to Memory Location 2. Change display to show data. If random data appears, press clear key combination (1 & 3). The display will indicate no zones selected (all LEDs in right hand column are out). Press key 2, press key 4, press key 6. Notice as you press each key, its associated LED lights up in the right column indicating you have selected that zone. If the information is correct, press ENTR key. That location is now programmed. If incorrect, press the clear keys again and re-select zones. Unlike numeric data (where a new entry overwrites an old entry) selection data must be cleared if an error is made.

PROGRAMMING SELECTION DATA other than Zone data is the same as Programming Zone Data. Example: Select Chime Enable. The Memory Assignment Chart shows location 4 contains the number to be entered. A "5" for Chime Enable.

Set the display to show the data in Memory Location "4". If clearing is required, do so. If not, Press the "5" key. Display will now show the LED "5" lit in the right hand column. Press the ENTR key. This location is now programmed.

## SUMMARY

### 2.10 MODE KEY

Changes the display. Display can view a memory location or its associated data, but not both at the same time. Pressing the MODE key allows alternating between viewing a memory location or its contents (data).

### 2.11 ENTRY KEY

When the display shows a memory location, pressing the ENTR KEY will advance that memory location. When the display shows data, pressing the ENTR KEY enters the displayed data into EEPROM and advances to the next memory location.

### 2.12 NUMERIC KEYS

WHEN DISPLAY SHOWS MEMORY LOCATIONS. Used to change memory locations. Examples: display shows 76 and 1 is desired, enter the following key sequence: 0 0 1. The display now shows 1.

WHEN DISPLAY SHOWS DATA AND NUMERIC DATA ENTRY IS REQUIRED. Use numbers 0 through 15 to enter data. A "0" entry will program and display 10.

WHEN DISPLAY SHOWS DATA AND SELECTION DATA ENTRY IS REQUIRED. Use keys 1 through 8 to enter Function data. Key 9 will select all function numbers (1 through 8).

WHEN THE DISPLAY SHOWS DATA AND THE CLEAR KEY FUNCTION IS REQUIRED. Pressing the clear key combinations keys **1** & **3** simultaneously programs a blank in the associated memory location. This function is used to "clear" data when necessary.

### 2.13 USING THE DKIV-F AS A PROGRAMMER FOR ARROWHEAD CONTROL PANELS

#### PANEL PROGRAMMING MODE

The DKIV-F must be placed in the "PROGRAM" mode in order to program the Arrowhead Control Panels. This is accomplished by the following key sequence:



Successful entry into the Panel Program mode is indicated by the piezo sounder "beeping."

Refer to specific Panel Installation Instructions for memory location assignments.

When programming is complete, return the DKIV-F in the "keypad" mode as follows:

Press **4** and **6** simultaneously. Then press **ENTR**.

**NOTE:** Failure to return the DKIV-F to the keypad mode will result in improper operation. If this occurs, reprogram DKIV-F to the program mode and repeat above in proper sequence.

### 2.14 ENTERING PANEL PROGRAM MODE FROM KEYPAD PROGRAM MODE

To enter Panel Program mode from Keypad Program mode, enter the following key sequence:



## SECTION III PROGRAMMING DEFINITIONS

MEMORY LOCATIONS	DEFINITIONS
0	<b>3.0 CHIME ZONE SELECTION</b> Used in single premise operation, any audible burglary zone can be programmed to activate the piezo sounder briefly to annunciate that a door (typically) has opened or closed during the disarm period.
1	<b>3.1 GROUP BYPASS ZONE SELECT</b> If desired, bypassable zones assigned in memory location 2 can be grouped together to allow bypassing with a minimum amount of keystrokes.
2	<b>3.2 BYPASSABLE ZONE SELECT</b> Select zones to be programmed to allow bypassing. Zone(s) selected can be bypassed on arming. Zone(s) will remain bypassed until the system is rearmed. DO NOT ALLOW FIRE ZONES TO BE BYPASSED.
3	<b>3.3 DISPLAY ZONE SELECT</b> The DKIV-F is shipped from the factory with all individual armed LED's enabled. Program the specific LED's that you wish to enable.
4	<b>3.4 KEYPAD FUNCTION SELECT</b> <b>DISABLE AUDIBLE FEEDBACK</b> — The miniature sounding device within the DKIV-F will "beep" whenever a key is pressed. This assures the user that the microcomputer inside the keypad has sensed the key stroke. For security reasons, the special emergency key pairs are silent. Selecting this feature will not effect normal operation of the sounder during pre-alert or at any other time it would normally turn on. To select this feature, program a "1" in this location.  <b>DISABLE SOUNDER</b> — To completely disable the piezo sounder, program a "2" in this location.  <b>MULTIPREMISE</b> — Multipremise operation allows two or more users to share the same control panel. Each user will only be able to utilize and control the selected zones on their respective keypads. To select for multipremise operation, program a "4" in this location.  <b>CHIME ENABLE</b> — Programming a "5" in this location will activate the zones for chime operation programmed in location 0.  <b>PRODUCT COMPATIBILITY</b> — The DKIV-F has been designed to work with all existing Arrowhead Avenger Series Control Panels. The DKIV-F is programmed from the factory for operation with current models.  For operation with earlier version AV6000/8000 Control Panels indicated by Micro Version 3113, program a "7" in this location.  For operation with all other model Arrowhead Control Panels, AV2000, AV3000, AV3100E, AV4000, etc., program an "8" in this location.
5-8	<b>3.5 INSTALLER ACCESS CODE SELECT</b> Programming the system can only be accomplished by using the installer code in the program sequence. The installer code may not be used to arm and disarm the system. Enter your desired four (4) digit code into this location. The factory default value for the installer code is 1111.

**NOTE:** The installer code must be four (4) digits in length.

MEMORY LOCATIONS	DEFINITIONS
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9-16	<b>ABBREVIATED ARMING LENGTH SELECT</b> Abbreviated arming allows the customer to arm the system by using only one (1) to three (3) digits of the access code. Program the desired number of abbreviated arming digits for users one (1) through eight (8) in this location.
17-22	<b>USER 1 ACCESS CODE</b> Program the desired three (3) to six (6) digit access code for User 1 in this location. Factory default value for User 1 is (123).
23-28	<b>USER 2 ACCESS CODE</b> Program the desired three (3) to six (6) digit access code for User 2 in this location.
29-34	<b>USER 3 ACCESS CODE</b> Program the desired three (3) to six (6) digit access code for User 3 in this location.
35-40	<b>USER 4 ACCESS CODE</b> Program the desired three (3) to six (6) digit access code for User 4 in this location.
41-46	<b>USER 5 ACCESS CODE</b> Program the desired three (3) to six (6) digit access code for User 5 in this location.
47-52	<b>USER 6 ACCESS CODE</b> Program the desired three (3) to six (6) digit access code for User 6 in this location.
53-58	<b>USER 7 ACCESS CODE</b> Program the desired three (3) to six (6) digit access code for User 7 in this location.
59-64	<b>USER 8 ACCESS CODE</b> Program the desired three (3) to six (6) digit access code for User 8 in this location.
65	<b>STATION ID DIGIT</b> Program the desired station report code in this location. The station report will be generated when open and closing by user is selected. The station ID will also be sent whenever an emergency keypad is pressed.

## SECTION IV INSTALLER PROGRAMMING MODES

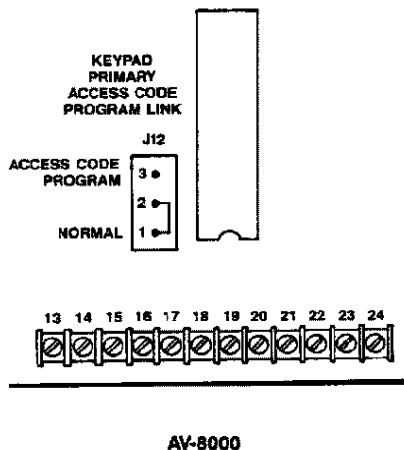
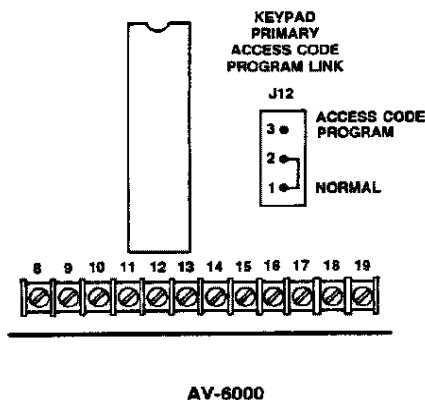
### PROGRAMMING NEW INSTALLER ACCESS CODE WHEN THE OLD CODE IS NOT KNOWN

If the Installer Access Code is not known, the following steps should be taken at each keypad location.

**NOTE:** Programming the code at one keypad will not effect the others.

**REFER TO FIGURE 2**

FIGURE 2



Program the new installers access code as follows:

1. Move link J-12 from "NORMAL" to "PROGRAM" position for five (5) seconds then return to the "NORMAL" position.
2. Access the Installer code memory location - press **[10]** + **[4]** + **[5]**. Switch between address and data modes - press **[MODE]**. Review the existing code or enter a new four (4) digit code at this time.
3. Exit Program mode - press **[4]** & **[5]** simultaneously, then press **[ENTR]**.

**NOTE:** If a DKIV-F has been programmed to operate on a current model Arrowhead Avenger Series Control Panel and the keypad is connected to an Arrowhead Control Panel other than an AV6000/AV8000, you will be inhibited from accessing the installer program mode.

## EMERGENCY CODES (AV-6000/8000)

There are five emergency conditions that can be initiated from the DKIV-F keypad. Four initiated by simultaneously pressing key pairs, plus Duress. These five 24 Hour reporting zones are available in addition to the E.O.L. supervised panel initiated zones. Refer to AV-6000 or AV-8000 Installation Instructions "Memory Locations 99 through 103" for details.

## EMERGENCY CODES (AV-4000)

There are four emergency conditions that can be initiated by simultaneously pressing key pairs, plus Duress which selectively cause an alarm on the AV-4000 panel as follows:

DEPRESSING	INITIATES ZONE
<b>[1]</b> and <b>[3]</b>	5 (Smoke Reset)
<b>[4]</b> and <b>[5]</b>	8 (Same as Duress)
<b>[2]</b> and <b>[8]</b>	2
<b>[MODE]</b> and <b>[ENTR]</b>	1

The above triggered zones should be 24-Hour Zones that have been programmed for FIRE, AUDIBLE PANIC OR SILENT PANIC. Memory Location 80 on the AV-4000 programming worksheet must be programmed to enable reporting these zones.

There are four emergency conditions that can be initiated from the DKIV-F keypad. There are initiated by simultaneously pressing key pairs which selectively cause an alarm on the AV-3000, AV-3000UL, AV-3100E and PAS-1/WC panels as follows:

## EMERGENCY CODES (AV-3000/2000)

DEPRESSING	AVENGER	PAS-1/WC
<b>[1]</b> and <b>[3]</b>	V17	V3
<b>[4]</b> and <b>[5]</b>	V18 & Duress	V4 & Duress
<b>[2]</b> and <b>[8]</b>	V15	V1
<b>[MODE]</b> and <b>[ENTR]</b>	V16	V2

The above triggered zones should be 24 Hour Zones that have been programmed for FIRE, AUDIBLE PANIC OR SILENT PANIC.

## MANUAL SMOKE RESET (AV-8000 ONLY)

The smoke output terminal may be manually reset by pressing key pairs 1-3 simultaneously.

Memory Location 53 on the AV-8000 Programming Worksheet must be programmed with a "2" to enable this feature.

## OPERATION OF MULTI-PREMISE MODE

Both users can arm their respective zones as in Conventional Mode, but both users must use the bypass method to remove any or all zones from their protected (armed) status.

It should be noted that the Entrance/Exit Delays are re-established making areas protected by Entrance/Exit Delays vulnerable to access from other users. However, this risk can be eliminated in high security situations by using Instant zones in these areas. In the Multi-Premise mode the ready and arm LEDs do not light.

