

INSTALLATION INSTRUCTIONS

7140 ALPHA Control Station

GENERAL INFORMATION:

The 7140 is a 4-wire Control Station intended for use with the 7090 and 7100 Control/Communicators. Containing a keypad, sounder, status indicator lights and ALPHA readout display, the 7140 is designed to support all control system functions. The 7140 may be used in the same 7100 system with 7030, 7120 and 7135 keypads, and in 7090 systems it can be used with 7091 keypads.

A 7140 may add up to three (3) additional zones to a 7100 system only. With installation of two or more Control Stations, a maximum of six (6) additional zones may be added.

Recommended wiring to the control is standard #22 AWG, non-shielded "telephone" quad (4 wire) cable. A maximum of 500 feet (150m) of wiring is allowed between the control and each control station (does not include zone wiring if used).

Mounting variations of the Control Station include wall surface mounting, mounting to standard single or four gang switch or outlet boxes, recess mounting and direct mounting to the front of the control enclosure. With use of the C304 cable, a 7140 may also be used as a portable test/programmer for a 7100 system allowing it to be carried from job site to job site as a temporary station when and where needed.

LOCATION:

Ideally, one keypad should be located close to the primary entry/exit door to the premises, and within 500 ft. of the control. As the control will support a maximum of four Control Stations, installation of additional stations is allowed at secondary entry/exit points, or other strategic locations within the premises.

NOTE: Not intended for outdoor installations.

If the additional keypad zones are used on a UL certificated installation the keypad must be placed in the protected area.

MOUNTING:

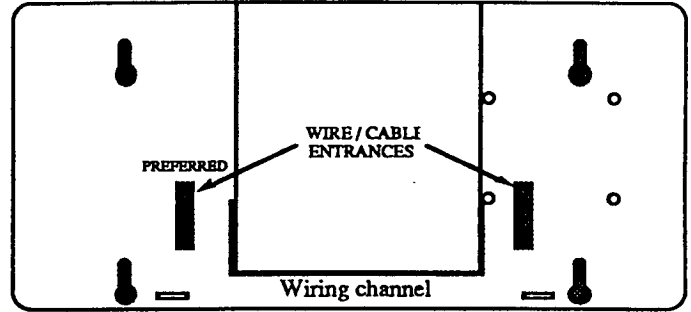
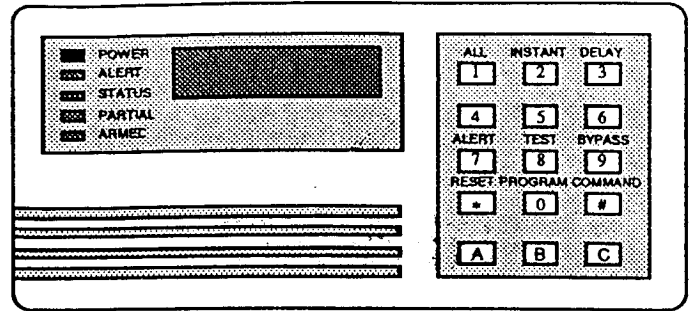
- The keypad should be mounted so that the bottom of the keypad is no higher than shoulder height of the shortest person that will use the system.

- Remove the cover from the base by inserting a flat screw driver in the two slots in the bottom of the cover and pressing up, pull the cover straight away from the base.

- Wall Surface Mount** - Using the base as a template, mark the location for the four mounting holes and the wire/cable entrance on the mounting surface. Provide an appropriate opening in the mounting surface for the wiring, and pre-start the mounting screws. *Do not secure the base at this point.*

- Switch or Outlet Box Mount** - Use either set of holes for mounting to a single gang box and both sets of holes for mounting to four gang boxes. With the single gang box mount, secure the other set of holes to the wall. *Do not secure the base at this point.*

- Recess Mount** - Use the instructions supplied with the recess mounting kit.

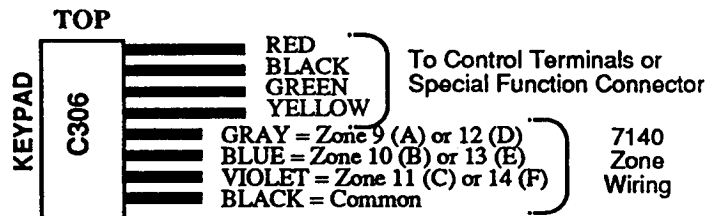


WIRING:

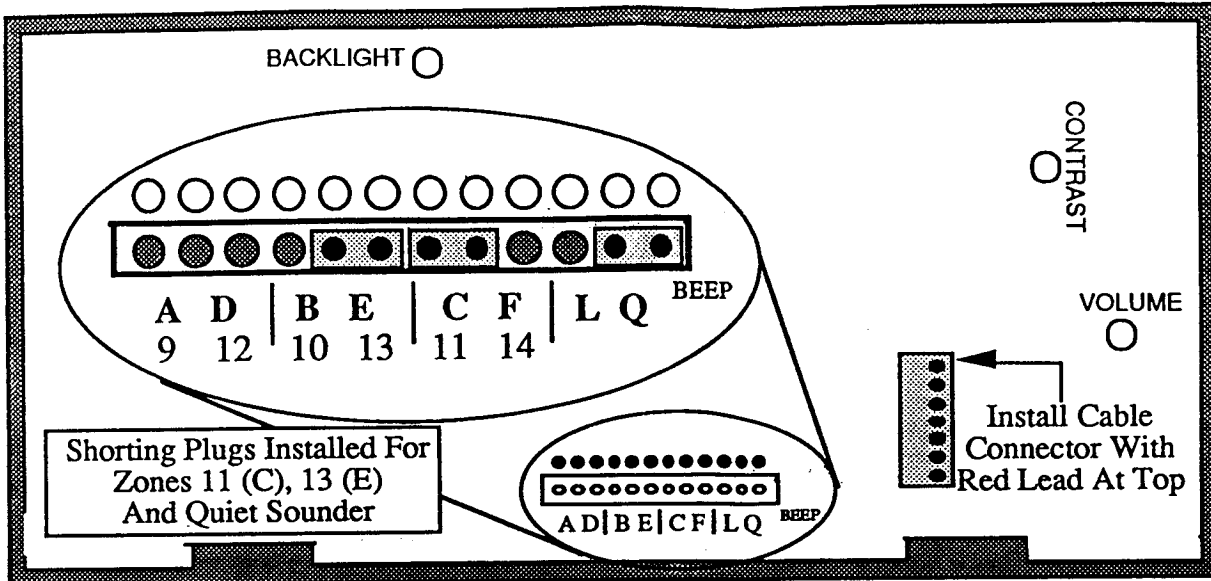
- Route wiring as necessary from the control to the point of 7140 installation. Use no more than 500 ft. (150 m) of #22 AWG, 4 wire cable for connection to the control. **Be sure all wiring is unpowered (de-energized) before routing.**

NOTE: Each Control Station must be individually wired back to the control. Do not daisy chain or T-tap the wiring.

- Bring cable through the Wire/Cable Entrance in the base, and secure the base to mounting surface or box.
- Make all necessary wiring connections to the C306 Connector Cable included with the Control Station. (For 7100 control terminal connections, see the control installation manual 19705. For 7090 connections see manual 21548.)



- After all connections have been made, mate the C306 connector through the rear of the 7140 circuit board opening onto the male pins with the red wire positioned on top (see page 2 for details).
- Install the Shorting Plugs for zone selection and Quiet or Loud sounder. (See page 2 for details.)
- Place the cover onto the base, and while feeding the excess cable out the rear of the base, press the cover straight in until the latches on both sides snap.



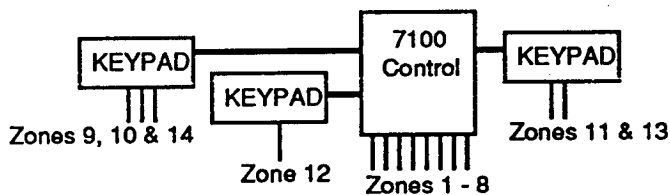
| Wire | Zone | Plug |
|--------|------|------|
| Gray | 9 | A |
| | 12 | D |
| Blue | 10 | B |
| | 13 | E |
| Violet | 11 | C |
| | 14 | F |

REAR VIEW OF CIRCUIT BOARD

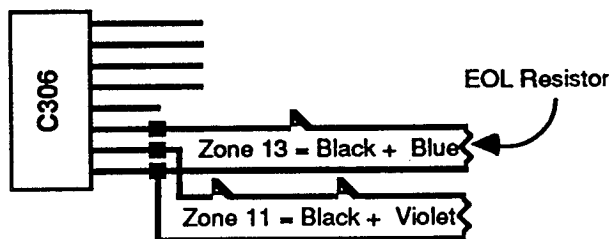
ZONE WIRING AND INFORMATION:

A 7140 may add up to three (3) additional zones to a 7100 system only. With installation of two or more Control Stations, a maximum of six (6) additional zones may be added. These zones are numbered 9 through 14.

CAUTION: A ZONE MAY BE SELECTED IN ONLY ONE KEYPAD. IF SELECTED IN TWO OR MORE KEYPADS, A ZONE ALARM MAY NOT BE TRANSMITTED BACK TO THE CONTROL.



Shown above is a system diagram with all 14 zones installed. The diagram following is the zone wiring for the Keypad on the right (zones 11 & 13). Shorting plug locations are shown in the drawing at the top of the page.



NOTE 1: 7100 controls are shipped with all control station zones disabled (in Program lines 24 through 29, Data Digits = 0009). This means EOL resistors need not be connected across unused control station zones.

NOTE 2: Wiring for activated control station zones *must* terminate in a 2.21K ohm, EOL resistor (supplied).

NOTE 3: While control station zones may be activated by control programming, they must also be selected using a shorting plug. Unselected zones will not respond even if programmed active in the control.

LOUD/QUIET OPERATION:

If the control station's Loud/Quiet Shorting Plug is in the **Loud** position, all system keypad entries and error code beeps will be heard regardless of which control station is being used. If in the **Quiet** position, only the key press and error code beeps for this control station will be heard. Normally keypads should be programmed in the Loud position. *If the Fire zone is in use, at least one keypad in the system must be set on maximum volume and programmed Loud so fire trouble beeps will be heard.*

However, in the event of an alarm, all control station sounders will mimic the system siren (alarm) output (continuous or pulse) regardless of the position of the jumper.

In the event the shorting plug is not used, the sounder will default (revert) to the Loud setting.

VOLUME CONTROL:

The beeper volume can be controlled by a screw driver adjustable control (pot) at the right edge of the printed circuit board. Turning the control clockwise increases the volume and counter clockwise decreases the volume. If the control is turned all the way counter clockwise the beeper becomes silent. *If the Fire zone is in use, at least one keypad in the system must be set on maximum volume and programmed Loud so fire trouble beeps will be heard.*

BACKLIGHT:

The display backlight intensity can be controlled by a screw driver adjustable control (pot) at the top edge of the printed circuit board. Turning the control clockwise increases the intensity and counter clockwise decreases the intensity.

CONTRAST:

The display contrast (viewing angle) can be controlled by a screw driver adjustable control (pot) at the right side of the printed circuit board.

USE WITH A C-304 CABLE ON A 7100 SYSTEM:

C-304 An optional 3 ft. long, 4-wire cable terminated with a 14-position connector at one end, and an 8 wide connector at the other. Allows direct connection of a portable Control Station keypad to the 7100 control's Special Function Connector for use as a temporary station for test and programming.

INSTRUCTION CARDS

There are two cards (2 and 4) that are duplicated for residential (2R and 4R) and commercial (2C and 4C) modes of operation. After determining the mode of operation in use in this system, the extra cards (referencing the unused mode of operation) should be removed. Card 5 is also duplicated, the card for the connected system should be retained and the other card removed (7090 and 7100).

ALPHA Programming

The 7140 keypad supports up to three words of programmable ALPHA for each area. These words come from a standard library of words (see page 4) or from a 10 word custom library that may be programmed. The 10 custom words are limited to 8 characters each (if the first custom word displayed has a right arrow in the eighth position the second custom word displayed will be joined to it without a space between them). The total number of characters that may be displayed per area is 16 including the spaces that separate the words. Following is the list of areas and their function:

- Area 00 - Used to "private label" the keypad. Is displayed when the second line of the display is not used to display zone information. For example: when the top line displays "Ready To Arm" the second line will display Area 00's programmed words if any. Area 00 is limited to 2 programmed words.
- Area 01 - Displays the ALPHA for zone 01.
- Area 02 - Displays the ALPHA for zone 02.
- Area 03 - Displays the ALPHA for zone 03.
- Area 04 - Displays the ALPHA for zone 04.
- Area 05 - Displays the ALPHA for zone 05.
- Area 06 - Displays the ALPHA for zone 06 (7100 only).
- Area 07 - Displays the ALPHA for zone 07 (7100 only).
- Area 08 - Displays the ALPHA for zone 08 (7100 only).
- Area 09 - Displays the ALPHA for zone 09 (7100 only).
- Area 10 - Displays the ALPHA for zone 10 (7100 only).
- Area 11 - Displays the ALPHA for zone 11 (7100 only).
- Area 12 - Displays the ALPHA for zone 12 (7100 only).
- Area 13 - Displays the ALPHA for zone 13 (7100 only).
- Area 14 - Displays the ALPHA for zone 14 (7100 only).
- Area 15 - Displays it's ALPHA when the control is disarmed and zone 12, 13 or 14 is faulted with the "zone status display" turned on. Area 15 is limited to 2 programmed words (7100 only).

To program the ALPHA in this keypad, the control must be in the System Programming mode. Enter this mode by entering the keypad programming code at the keypad or by holding the S1 switch down on the 7100 circuit board or shorting the program contacts on the 7090 control board for two seconds. The 7140 keypad will display "System Program". Remember if you are not in the System Programming mode the A, B and C keys may be programmed to generate emergency alarms!

To program the custom ALPHA for each area and the custom words; while "System Program" is displayed, hold down the A, B and C keys together for two seconds and the 7140 keypad will display "Area Display". This is the prompt to enter the custom programming for each area (zone). Refer to the attached flow charts (pages 5 and 6) to program the ALPHA for areas and custom words.

To default the keypad to factory programming; while "System Program" is displayed, hold down both the A and 1 keys for 2 seconds. "Default EEPROM" will be displayed while the programming is defaulted back to the factory default. The factory default mode blanks out all custom words and area (zone) programming.

To set the commercial default program into the keypad; while "System Program" is displayed, hold down both the A and 2 keys for 2 seconds. "Demo Mode Commercial" will be displayed while the commercial demo mode is programmed into the keypad. The commercial demo mode programming is as follows:

- Area 00 = no change
- Area 01 = FRONT ENTRANCE
- Area 02 = BACK DOOR
- Area 03 = SHIPPING DOCK
- Area 04 = FACTORY
- Area 05 = ENGINEERING
- Area 06 = ACCOUNTING
- Area 07 = COMPUTER ROOM
- Area 08 = SALES
- Area 09 through 15 = blank

To set the residential default program into the keypad; while "System Program" is displayed, hold down both the A and 3 keys for 2 seconds. "Demo Mode Residential" will be displayed while the residential demo mode is programmed into the keypad. The residential demo mode programming is as follows:

- Area 00 = no change
- Area 01 = FRONT DOOR
- Area 02 = BACK DOOR
- Area 03 = LIVING ROOM
- Area 04 = FAMILY ROOM
- Area 05 = DEN
- Area 06 = MASTER BEDROOM
- Area 07 = BOYS BEDROOM
- Area 08 = GIRLS BEDROOM
- Area 09 through 15 = blank

Transferring the program from one 7140 keypad to another 7140 in a 7100 system. This procedure is not required in a 7090 system as ALPHA transfer from one keypad to all others in a system is automatic. A special optional cable set C309 must be used. On the cable with three connectors the 14 pin connector plugs onto the special functions connector of the 7100 control. The other 8 pin connectors plug onto the wiring connectors of the keypads. When properly connected both keypads will be displaying "Communications Failure". First, on the keypad that is to receive the program, press the C and 2 keys together. It will display "Receive". On the keypad that is to transmit (send) its program, press the C and 1 keys together. It will display "Transmit". The cable with only two 12 pin connectors must be then plugged into the connectors at the bottom of the two keypads where the loop shorting plugs are inserted (this cable must be plugged in last, after all steps above have been completed). Within 30 seconds the transmitting keypad should display "Done" and the receiving keypad should display "Copy Completed". If so, then the copy was successful. Otherwise, if the above displays don't appear in 30 seconds, the copy failed. If so, momentarily remove power from the keypads and then repeat the above sequence.

STANDARD LIBRARY WORDS

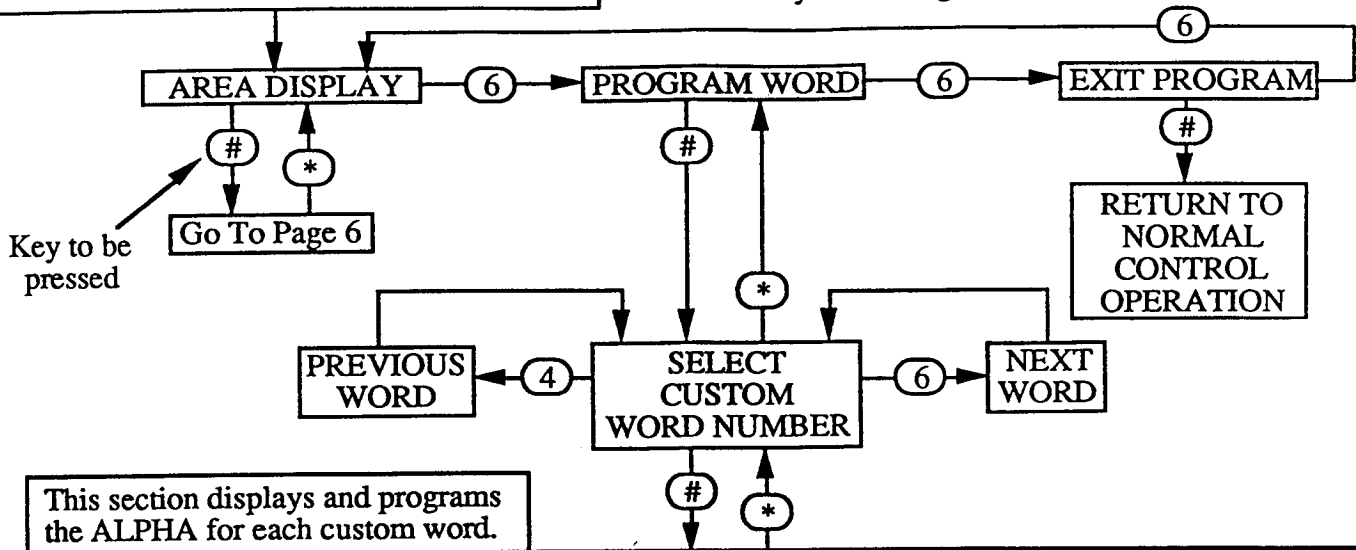
ACCOUNTING
AID
ALARM
AREA
ATTIC
AUDIT
AUDITORIUM
BACK
BALCONY
BASEMENT
BATHROOM
BEDROOM
BOILER
BOYS
BREAK
BREAKFAST
BUTTON
CABINET
CAFETERIA
CARPORT
CASE
CASH
CEILING
CELLAR
CLOSET
COMPUTER
CONFERENCE
CONTROL
COOLING
COPIER
COPY
CORRIDOR
COURT
DECK
DEN
DETECTION
DETECTOR
DEVELOPMENT
DINING
DOCK
DOOR
DOWNSTAIRS
DRAFTING
DRAWER
DRIVEWAY
EAST
ELEVATOR
EMERGENCY
ENGINEERING
ENTRANCE
EXIT
EXTERIOR
FACTORY
FAMILY
FENCE
FIELD
FIRE
FIRST
FLOOR
FLOW
FOIL
FOURTH
FOYER

FREEZER
FRONT
FUEL
FURNACE
GARAGE
GATE
GIRLS
GLASS
GUEST
GUN
GYM
HALL
HATCH
HEAT
HOLDUP
HOUSE
INCOMING
INSIDE
INSPECTION
INTERIOR
JANITOR
KEYSWITCH
KITCHEN
LAB
LAUNDRY
LAVATORY
LEVEL
LIBRARY
LIQUOR
LIVING
LOADING
LOBBY
LOFT
LOUNGE
LOWER
MAIN
MAINTENANCE
MANAGER
MARKETING
MASTER
MAT
MEDICAL
MEZZANINE
MONITOR
MOTION
NORTH
NURSERY
OFFICE
OPERATIONS
OUTSIDE
OVEN
OVERHEAD
PAINT
PANIC
PANTRY
PARKING
PARLOR
PATIO
PERIMETER
PERSONNEL
PHONE
PLANT
PLAY

POLICE
POOL
PORCH
PRESIDENT
PRODUCTION
PULL
PUMP
PURCHASING
QUALITY
REAR
RECEIVING
RECEPTION
RECREATION
REPAIR
RESEARCH
ROOF
ROOM
RUMPUS
SAFE
SALES
SCREEN
SECOND
SECURITY
SENSOR
SERVICE
SHED
SHIPPING
SHOP
SIDE
SKYLIGHT
SLIDING
SMOKE
SOUTH
SPRINKLER
STAGE
STAIRS
STATION
STOCK
STORAGE
STUDIO
STUDY
SWIMMING
SYSTEM
TAMPER
TEST
TESTING
THIRD
TOOL
TOWER
TRAINING
TRANSOM
TRAP
VALVE
VAULT
VICE
WALL
WAREHOUSE
WATER
WEST
WINDOW
YARD
ZONE

Only when the control is in the system programming mode hold the A, B and C keys down together for two seconds.

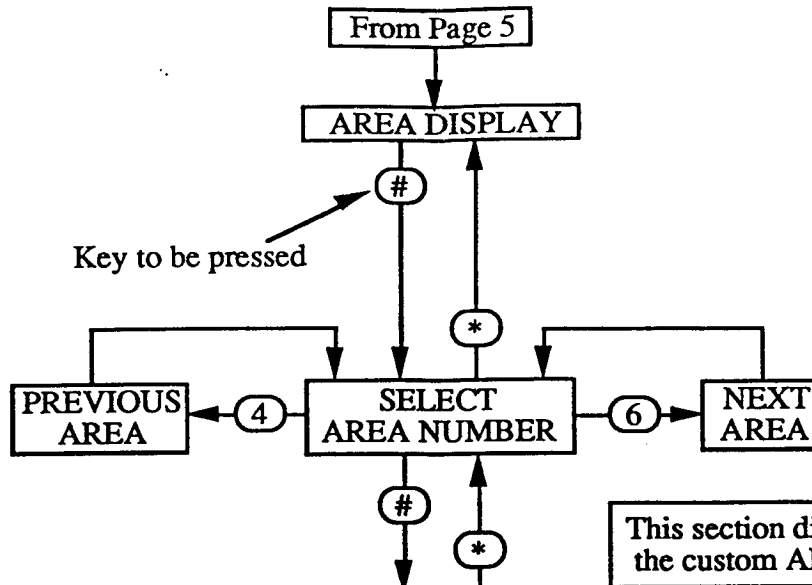
Note: To enter this mode if local programming is locked out, remove the green wire. While "Communication Failure" is displayed hold the A, B and C keys down together for two seconds.



This section displays and programs the ALPHA for each custom word.

| | | |
|---|--|---|
| <p>1</p> <p>Place number 5 at the cursor</p> | <p>2 ↑</p> <p>Advance to next higher character at the cursor</p> | <p>3</p> <p>Place upper case M at the cursor</p> |
| <p>← 4</p> <p>Go back to previous cursor position to the left</p> | <p>5 (Fast)</p> <p>Scan characters rapidly when held down with the 2 or 8 keys</p> | <p>6 →</p> <p>Advance to next cursor position to the right</p> |
| <p>7</p> <p>Place left arrow character at the cursor</p> | <p>8 ↓</p> <p>Go back to next lower character at the cursor</p> | <p>9</p> <p>Place lower case m at the cursor</p> |
| <p>*</p> <p>Discard changes and return to WORD NUMBER prompt</p> | <p>0</p> <p>Delete the character at the cursor</p> | <p>#</p> <p>Accept changes and return to WORD NUMBER prompt</p> |

7140 ALPHA keypad programming flow chart first page



| | | |
|---|--|---|
| <p style="text-align: center; font-size: 2em;">1</p> <p>Place first word of the custom library at the cursor</p> | <p style="text-align: center; font-size: 2em;">2 ↑</p> <p>Advance to next word from the library at the cursor</p> | <p style="text-align: center; font-size: 2em;">3</p> <p>Place word 1/4 way into the standard library at the cursor</p> |
| <p style="text-align: center; font-size: 2em;">← 4</p> <p>Go back to previous word position to the left</p> | <p style="text-align: center; font-size: 2em;">5 (Fast)</p> <p>Scan words rapidly when held down with the 2 or 8 keys</p> | <p style="text-align: center; font-size: 2em;">6 →</p> <p>Advance to next word position to the right</p> |
| <p style="text-align: center; font-size: 2em;">7</p> <p>Place seventh word of the custom library at the cursor</p> | <p style="text-align: center; font-size: 2em;">8 ↓</p> <p>Go back to previous word from the library at the cursor</p> | <p style="text-align: center; font-size: 2em;">9</p> <p>Place word 3/4 way into the standard library at the cursor</p> |
| <p style="text-align: center; font-size: 2em;">*</p> <p>Discard changes and return to AREA NUMBER prompt</p> | <p style="text-align: center; font-size: 2em;">0</p> <p>Delete the word at the cursor</p> | <p style="text-align: center; font-size: 2em;">#</p> <p>Accept changes and return to AREA NUMBER prompt</p> |

7140 ALPHA keypad programming flow chart second page