

Microframe Corporation

Series 9040: Multi-Number Paging System

Four Each 3-Digit Numbers

32 Number Memory

Flashing Number Timeout



Operating Manual

A9040-7011



Limited Warranty Agreement

Your Microframe System is warranted against failure due to defects in workmanship or material for a period of one (1) year from the date of purchase. Microframe Corporation will repair or replace any defective unit. Obvious abuse or mishandling of the unit is NOT covered by this warranty.

Merchandise Return

If your Unit does not work satisfactorily, please give us a call. We may be able to clear up the problem by phone. If it becomes necessary to return your Unit to the factory, please observe the following.

1. Place Unit in a sturdy box with sufficient packing material.
2. If requested, include the power supply. It is not necessary to return the cable and connectors unless they are the problem.
3. Return the system insured and prepaid since we are not responsible for shipping damages and losses on returned Units.

Warranty Service

For warranty service, please contact Microframe at 1-800-635-3811. A technician will gladly assist you.

Assistance

For any product assistance or maintenance help, contact Microframe by either calling 1-800-635-3811 or emailing us at support@microframecorp.com.

Safety

Do not install substitute parts or perform any modification to the product without first contacting Microframe.

Warning

All power transformers, line cords, and electrical equipment should be kept out of the reach of children and away from water. (If you are installing cable in an air plenum area, such as a drop ceiling used for air return, you must use plenum-rated cable. The cable supplied from Microframe is rated CL2 and is approved for installation everywhere indoors except plenum areas.)

Life Support Policy

Microframe's products are not authorized for use as components in life support devices or systems without the express written approval of the president of Microframe Corporation. As used herein:

1. Life support devices or systems are defined as systems which support or sustain life, and whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user or any one depending on the system.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

Disclaimer

We are constantly striving to improve our products. Due to this, specifications are subject to change without notice.



SERIES 9040

INSTALLATION & SPECIFICATION GUIDE

ITEM NO: A9040-7011
REVISION DATE: 11/09

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MODEL 9040 SPECS

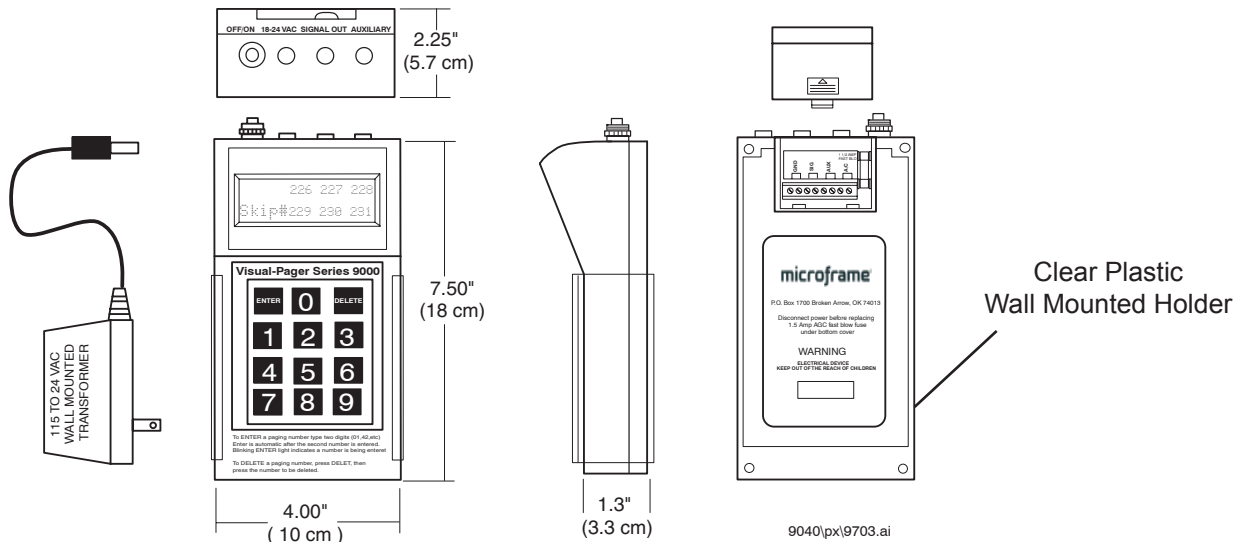
Keypad

Operation

The Model 9040 Keypad is designed to accept numbers typed into the keypad and display them on a Remote Display. Up to 32 different 3-digit numbers will be remembered and rotated on a customer programmed time schedule; i.e. every three seconds. The Keypad will display four different 3-digit numbers at one time and change to a new set of four numbers every three seconds. This allows the Keypad to show all 32 numbers within a 24-second period (4 numbers every three seconds). The Model 9040 Keypad can automatically delete each number after a user-programmed display time from 1 to 99 minutes. The keypad can blink numbers at two different rates after they have been entered a user programmable length of time.



Microframe® Model 9040 Keypad



ARCHITECT'S SPECIFICATIONS: The Visual-Paging System shall use a Keypad to drive the Remote Display(s). Both power and signal shall be supplied over the same cable to the Displays. Additional Displays may be driven by using a booster amp. The Keypad shall have a local display to show the number being entered as well as those numbers shown on the Remote Display. The Keypad shall be capable of automatically entering and deleting numbers. Multiple Keypads may be connected at any time by attaching them to the cable going to the Displays. Numbers may be entered or deleted from any Keypad. The Keypad shall be supplied with a surface-type wall mount bracket. The Keypad shall be powered by a 24-volt UL-approved wall mount AC Adapter. The Keypad shall be fused with a 1.5 Amp fuse.

Model 9040 Keypad Specifications

Local Display.....	Built-in 32 character LCD readout.
Remote Display	Microframe Model 9430, 930, or 9230 Remote Display.
Maximum Distance from Keypad	100 Feet (30 meters) to 2,000 Feet (600 meters) depending on quantity and size of Displays.
Maximum Number of LED Displays	Up to four 9430 Displays without an optional AC Adapter or booster amp.
Maximum Numbers Stored	Up to 32 different 3-digit numbers are stored in the Model 9040 Keypad.
Maximum Number of Keypads	Up to 32 Keypads may be connected together to allow inputs from 32 different locations to a combined output to one or more displays.
Power Input Requirements.....	24 VAC 1.2A supplied by the AC Adapter which requires 115 Volts AC @ .72 Amps.
Fuse Requirements.....	1.5 Amp GMA (5mm x 20mm) normal blow fuse.
Weight.....	.75 Lb (.4 kg) with AC Adapter 2.25 Lb (1.0 kg).

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MODEL 9430 SPECIFICATIONS

Remote Display

Features

The Model 9430 Remote Display is designed to show up to four 3-digit numbers at a time. The Model 9430 Display has 2.5 inch tall digits viewable up to 80 feet and is encased in an aluminum extruded cabinet. Optional ceiling mounts are available in a single, double, or triple cluster for easy mounting in the center of or around the peripheral of a large retail area. Outdoor displays are also available.

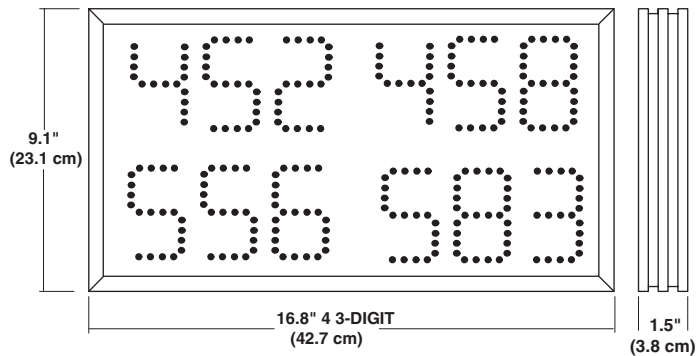
Operation

The Model 9430 Remote Display is designed to operate with the Microframe Model 9040 Keypad to provide a continually refreshed Remote Display of up to 32 different 3-digit numbers from 000 to 999. The signal and power is received from a single cable connected to the Model 9040 Keypad. Up to four displays may be connected directly to the Model 9040 Keypad.

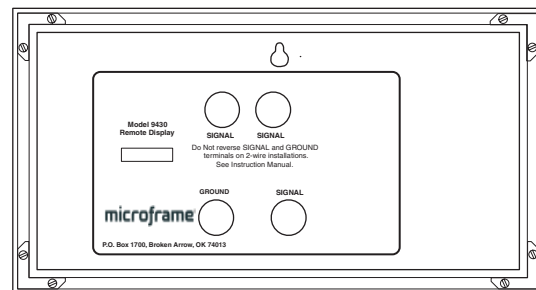


Microframe® Model 9430 Display

Front View



Back View



9040|px|9700.ai

Model 9430 Specifications

Remote Display	Wall Mount 2.5-inch (6.4 cm) LED Displays
Maximum Distance from Keypad to LED Display.....	100 Feet (30 meters) to 2,000 Feet (600 meters) depending on quantity and size of Displays.
Power Input Requirements	Power supplied by Keypad
Maximum Number of Digits	4 each 3-digit numbers
Number Capacity	Thirty 3-digit numbers
Character Height	2.5 inch (6.4 cm)
Character Viewing Distance	80 feet
Weight	3.5 lbs (1.6 kg)

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MODEL 9230 SPECIFICATIONS

Remote Display

Features

The Model 9230 Remote Display is designed to show up to two 3-digit numbers at a time. The Model 9230 Display has 5.5 inch tall digits viewable up to 125 feet and is encased in an aluminum extruded cabinet. Optional ceiling mounts are available in a single, double, or triple cluster for easy mounting in the center of or around the peripheral of a large retail area. Outdoor displays are also available.

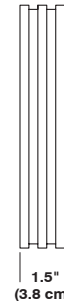
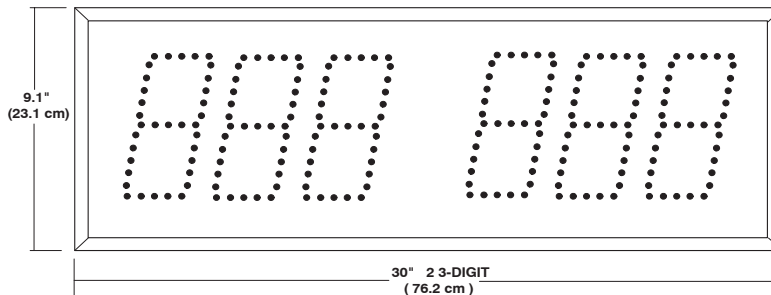


Operation

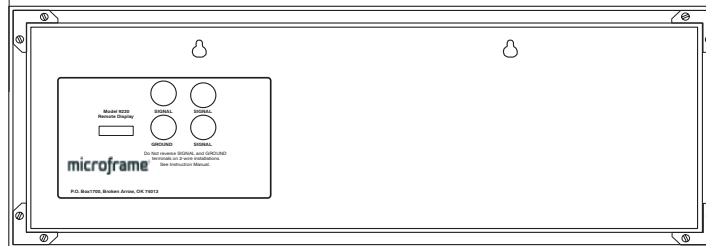
The Model 9230 Remote Display is designed to operate with the Microframe Model 9040 Keypad to provide a continually refreshed Remote Display of up to 32 different 3-digit numbers from 000 to 999. The signal and power is received from a single cable connected to the Model 9040 Keypad. Up to four displays may be connected directly to the Model 9040 Keypad.

Microframe® Model 9230 Display

Front View



Back View



9230px(9701.ai)

Model 9230 Specifications

Remote Display	Wall Mount 5.5-inch (14 cm) LED Displays
Maximum Distance from Keypad to LED Display.....	100 Feet (30 meters) to 2,000 Feet (600 meters) depending on quantity and size of Displays.
Power Input Requirements	Power supplied by Keypad
Maximum Number of Digits	2 each 3-digit numbers
Character Height	5.5 inch (14 cm)
Character Viewing Distance	125 feet
Weight	6 lbs (1.6 kg)

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MODEL 930 SPECIFICATIONS

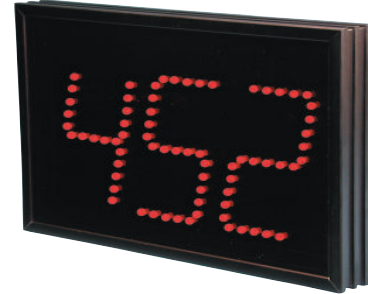
Remote Display

Features

The Model 930 Remote Display is designed to show a single 3-digit number at a time. The Model 930 Display has 5.5 inch tall digits viewable up to 125 feet and is encased in an aluminum extruded cabinet. Optional ceiling mounts are available in a single, double, or triple cluster for easy mounting in the center of or around the peripheral of a large retail area. Outdoor displays are also available.

Operation

The Model 930 Remote Display is designed to operate with the Microframe Model 9040 Keypad to provide a continually refreshed Remote Display of up to 32 different 3-digit numbers from 000 to 999. The signal and power is received from a single cable connected to the Model 9040 Keypad. Up to 11 displays may be connected directly to the Model 9040 Keypad.

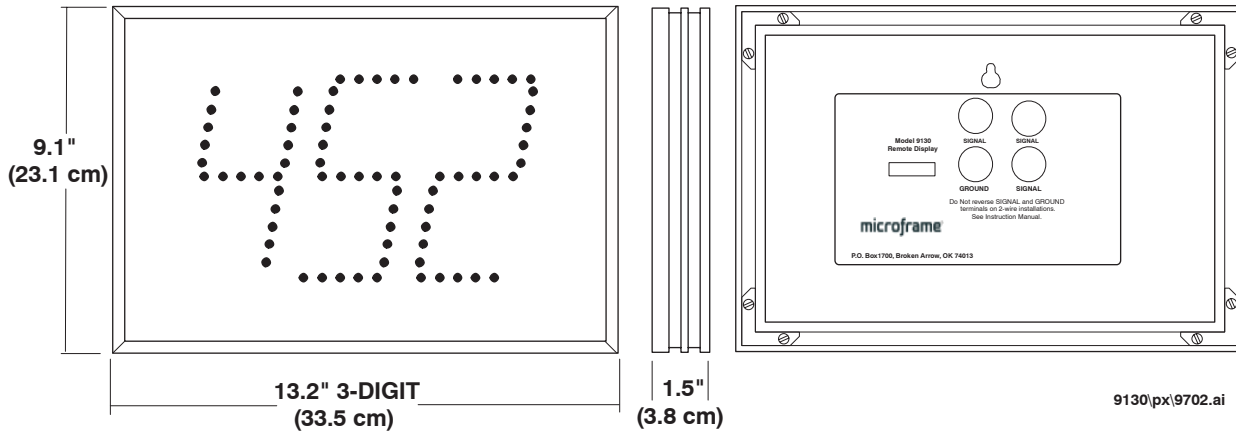


Microframe® Model 930 Display

Front View

Back View

Red Plexiglas with Extruded Aluminum Frame



Model 930 Specifications

Remote Display	Wall Mount 5.5-inch (14 cm) LED Displays
Maximum Distance from Keypad to LED Display.....	100 Feet (30 meters) to 2,000 Feet (600 meters) depending on quantity and size of Displays.
Power Input Requirements	Power supplied by Keypad
Maximum Number of Digits	1 each 3-digit numbers
Character Height	5.5 inch (14 cm)
Character Viewing Distance	125 feet
Weight	3.0 lbs (1.6 kg)

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1 INSTALLATION PROCEDURES

Before permanent installation, we recommend that you test your entire system in one room on a table or floor. This will be beneficial in troubleshooting should you have any problem after installing the system.

1.1 TEST THE 9040 KEYPAD

Connect the AC Adapter to the Model 9040 Keypad at the 18-24 VAC connector. Turn power "ON" and enter a number. If the number is shown on the built-in display of the Keypad, the Keypad works.

1.2 TEST 9040 KEYPAD AND CABLE

Turn power "OFF" and select the cable to be used between the Keypad and the Remote Display. Connect one end of this cable to the Keypad (see **Visual Pager Connection Diagram**) and turn power "ON." If the message "SHORT 1" or "SHORT 2" appears in the local display, there is a short in the cable and needs to be repaired before proceeding.

1.3 TEST KEYPAD, CABLE, DISPLAY

Turn power "OFF." Connect the other end of the cable to the Remote Display and verify that it works by turning the power "ON." If the message "SHORT 1" or "SHORT 2" appears, there is a short in the Display. Should the message "SHORT 3" appear, check the **Troubleshooting Chart** for possible solutions. If the Remote Display does not show the numbers once they

are entered and there is no error code displayed, then the signal cable is *open*. An *open* cable is one where the wires are not making a connection or it has a broken wire.

1.4 INSTALL 9040 KEYPAD

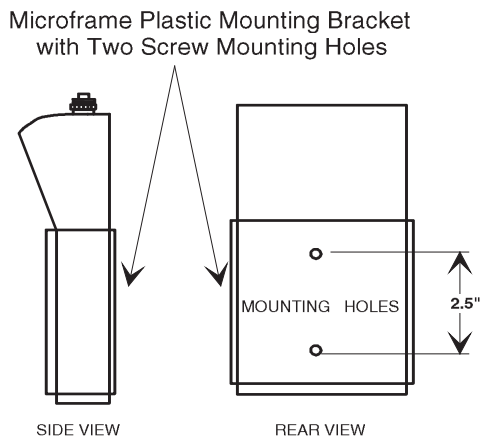
Select a location that is handy but not in the way. The Model 9040 Keypad may be mounted on a table top or on the wall. Locate the Keypad so that the cord from the wall-mount AC Adapter will not present a safety hazard. The installation location must be within 5 feet of an AC power outlet so that the cord reaches the Keypad.

You may place the Keypad in the enclosed plastic wall mounting bracket if needed. Place the mounting bracket on the Keypad at the desired mounting location on a table top or wall and mark the position. Then slide the Keypad up out of its mounting bracket and attach the bracket using screws supplied. Once screws are screwed in flush with back of bracket, slide Keypad into bracket. The Keypad may be easily removed, if necessary.

Install the Keypad and connect to AC power. **Do not** attach the cable that runs to the Remote Displays yet. Test for operation by entering a number and observing this number in the built-in display of the Keypad. This verifies that the system is working. If the unit did not work, refer to the **Troubleshooting** section. Now turn power "OFF."

NOTE: Only the Model 9040 Keypad needs an AC outlet for the wall mount AC Adapter. Power and Signal for the Remote Displays will be provided from the Keypad.

Mounting for Model 9040 Keypad



1.5 INSTALL THE REMOTE DISPLAY

The Remote Display should be located within three or four feet of eye level to provide maximum visibility for the observer.

The Remote Display may be hung on a screw anchored in the wall. First, place the hole template on the wall and mark the location for the mounting screw through the template. Next, punch one hole for the input cable from the Keypad and a second hole for the cable to the next Display, if applicable. **Do not** connect the cable to any Display yet. If you have purchased an optional ceiling assembly, follow the instructions included with the assembly.

1.6 INSTALLING SIGNAL CABLE

A single signal cable must be installed between the Keypad and the Remote Display. For proper cable selection, please refer to the **Maximum Cable Length Table**. This will allow the longest distance and the most reliable operation.

The Visual-Pager System uses an 18 AWG wire pair. Cable supplied by Microframe has the ends prepared ready to connect to the Keypad and Remote Display (See **Visual Pager Connection Diagrams**).

If you have soldered your own cable connectors, you should test the cable for shorts with a short tester or Ohm meter (after the cable is installed and before you connect the Remote Display).

Next, connect the cable to the Keypad connector marked "**Signal Out.**" Turn "**ON**" the power switch. When the Keypad LCD comes on it will show "Ready." If Error Code "SHORT 1" or "SHORT 2" appears, there is a short in your cable, and it needs to be repaired before proceeding. See **Troubleshooting Chart** for additional help.

Next, turn power "**OFF**" and proceed to **Step Four: Display Connection.**

If you turn your Keypad "**ON**" and you do not see "Ready," you may have blown a fuse. Turn power "**OFF**" and remove AC Adapter from wall outlet.

You may gain access to the fuse by removing the small slide-on cover on the rear cover of the Keypad. Replace only with fuse as stated in 9040 SPECIFICATIONS to prevent permanent damage to the Keypad. (Remember to remove AC Adapter from wall outlet before replacing fuse.)

The number you entered should appear on the left side of the Keypad Display for approximately one (1) second, then appear and remain on the right side of the LCD Display. The number should also appear on the Remote Display. If nothing is shown on the Remote Display, then the signal cable is "open." (*The wire is not making connection or it has a broken wire.*) Check the connectors and replace, if necessary.

CAUTION

24 VOLTS AC IS PRESENT UNDER THE SMALL SLIDE-ON COVER. DISCONNECT AC ADAPTER BEFORE SERVICING.

1.7 DISPLAY CONNECTIONS

After the cable is installed and connected to the Keypad and tested, turn the power "**OFF**" and connect the cable to the Remote Display. Turn the Keypad power "**ON**." The Keypad Display should show "READY." The Remote Display should be blank. Now type in a number.

2 KEYPAD OPERATION

2.1 INSTRUCTIONS FOR USE

The Model 9040 Keypad has its own built-in display so that you can view the numbers that are being entered and shown on the Remote Display.

2.2 AUTOMATIC ENTRY

When number buttons 000 to 999 are pressed, they are automatically entered into the Remote Display and also displayed on the Model 9040 Keypad. After you push the first number, such as "1," the local display shows "Ent>1." After you enter the second number "2," the local display shows "Ent>12" for one second and disappears. The number "12" will then appear in order in sequence on the Remote Display.

2.3 SELECTIVE DELETE

To selectively delete a paging number, push "DELETE" then the number you wish to delete from the Remote Display. After you push the first number, such as "1," the local display shows "De1>1." After you enter the second number "2," the display shows "De1>12" for one second and disappears. The Keypad will delete "12," once it's found. The Skipped Number Memory Hopper will also search for "12," and it will be removed if found.

2.4 QUICK DELETE

The 9040 Keypad can be programmed to be a two-key Quick Delete function. After you push the first number, such as "1," the local display shows "De1>1." After you enter the second number "2," the display shows "De1>12" for one second and disappears. When in this mode, you press only two numeric keys and the number is deleted. This is useful in locations where one Keypad is primarily an entry station and a second Keypad is primarily a delete station, and thus programmed for Quick Delete.

2.5 AUTOMATIC DELETE

Each number will automatically be deleted after a predetermined display time, programmable from the Keypad (see **Programming Options** section). Once the numbers are entered, they will remain on the Remote Display until they are deleted manually or until the display time-out is reached.

The Remote Display time can be programmed from the Keypad over the range of 1 to 99 minutes. If you select "0" minutes, the Automatic Delete will be disabled, and the numbers will remain until manually deleted. Automatic Delete is an option in the blink alert mode. See programming for details.

2.6 MULTIPLE PAGING

The 9040 Keypad will store up to 32 different 3-digit numbers in any order. The numbers are displayed in numeric order until the operator manually deletes them or they are automatically deleted (see **Auto Delete** above).

2.7 MULTIPLE OUTPUTS

The 9040 Keypad will directly drive up to four Model 9430 Remote Displays, without a booster amp. An unlimited number of Remote Displays may be connected using a combination of booster amps.

2.8 MULTIPLE INPUTS MODEL 9040

You may connect up to 32 Model 9040 Keypads on the same common cable to the Remote Display(s). Each "Slave" Keypad will send its numbers to the "Master" Keypad which will automatically store, combine, and display all the numbers entered from all Keypads. Each Keypad will display numbers entered from itself as well as all numbers entered from all other Keypads. Any number may be entered or deleted from any "Slave" or "Master" Keypad.

MULTIPLE KEYPAD NOTE

The first Keypad turned "ON" each day becomes the "Master Keypad" and should not be turned off before the other Keypads because you may lose displayed numbers.

2.9 BLINK ALERT MODE

In this mode, each number will automatically start to blink after a predetermined display time. There are two types of blinks: slow blink and fast blink. When programming, the keypad will prompt you to set the time delay in seconds for the slow blink to start, and then the fast blink.

For example, at time of setup, you programmed your slow blink to start after three minutes and your fast blink to start after five minutes. For example: In a restaurant setting, table 14's food is ready. The number is entered into the keypad and displayed on the LED board to let the waiter/waitress know that table 14's food is ready. After three minutes, the number 14 starts to blink slow, meaning that table 14's food has been sitting for a little while. After five minutes, the number 14 will begin to blink rapidly, letting the wait staff or the expeditor know that table 14's food needs to be taken immediately (see Programming Instructions).

2.10 POWER CONNECTION

Connect the AC Adapter to an AC outlet and connect the power plug to the connector on the top side of the Keypad marked "18-24 VAC" Power In, or use the optional connectors under the cover marked "A/C".

2.11 FUSE

The Model 9040 Keypad contains a fuse which is accessible through the small slide-on cover located on the bottom of the Keypad. When replacing the fuse, be sure to **DISCONNECT** the AC Adapter from the AC wall outlet. Replace **ONLY** with the value stated on the 9040 specification page.

2.12 PROGRAMMING OPTIONS

The following user programmable options are available in the Model 9040 Visual-Pager. See **Programming Options Instructions** for details in using these options.

2.13 OPTIONAL CONNECTIONS

The Model 9040 Keypad has three optional connections on the 8-pin terminal block located under the small removable cover.

1. **AUX**—Auxiliary connection for use with the extra cost Remote Delete Option.
2. **A/C**—Remote 24 VAC Input used when an AC Adapter other than the wall mounted one supplied with the system is required, such as an attic-mounted AC Adapter installation.
3. **SIG & GND**—You may connect the 18 AWG wire to the Remote Display using these two terminals.

OPTION	DESCRIPTION	FACTORY DEFAULT
13	Display Roll Over Time	3 Seconds
14	Auto Deletes Numbers After	30 Minutes
15	Skipped Number Display Enable	Enabled
16	Skipped Number Display Delay Time before it shows Skipped Number	5 Minutes
17	Keyboard Beep Enable	ON
18	Quick Delete Enable	OFF
19	Restore Factory Defaults	
23	Blink Mode Enable	OFF
24	Slow Blink Time.....	10
25	Fast Blink Time	20
26	Auto Delete in Blink Mode Enabled	OFF

3 DISPLAY OPERATION

3.1 POWER

All of the Remote Displays are designed to operate with the Model 9040 Keypad. When the Keypad is turned off, all of the Model 9040 Displays are also turned off automatically. Since the Keypad supplies all the power and signal through the same wire pair, an AC power outlet is not needed at the Remote Displays. A Booster Amp is available to power an unlimited number of additional Remote Displays.

3.2 SYSTEM SIGNAL CONNECTION

You may refer to the **Visual Pager Connection Diagram (pg. 10)** of this manual for Remote Display connections. You may connect the system with 16 or 18 AWG paired wire by using the 8-pin terminal block located under the small slide-on cover on the back of the Model 9040 Keypad. If you are using RCA connectors, then connect the cable to the Keypad where it is marked "**Signal Out.**" **NOTE:** The "**Auxiliary Connector**" should **NOT** be used with any of the Remote Displays.

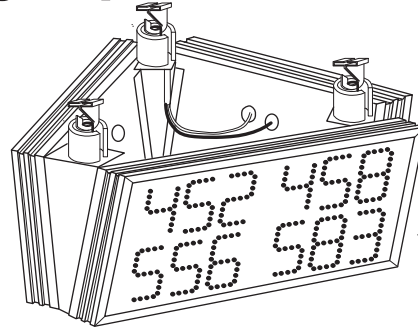
For 16 or 18 AWG paired wire installations, use the 2-conductor terminal block located inside the rear cover. Be very careful to observe **SIGNAL** and **GROUND** polarity. There is a second set of connectors to run another wire to the next Remote Display if needed.

Model 9430 Display Operation

Display Features

- | 2.5-Inch Tall Numbers
- | Four 3-Digit Numbers
- | Up to 4 Displays without Booster
- | High Brightness LEDs

The Model 9430 Display works with the Model 9040 Keypad. It shows four 2-digit numbers at a time. The numbers shown on the 9040 Keypad will be the same as the numbers shown on the 9430 Display.



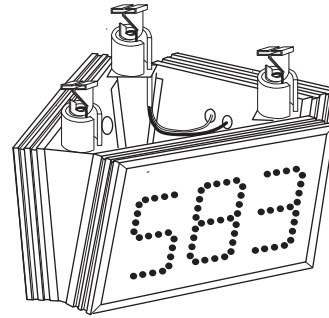
You may have a Model 9430, Model 930 and a Model 9230 all connected to the same Keypad, and each Remote Display will show all numbers in the system one screen at a time.

Model 930 Display Operation

Display Features

- | 5.5-Inch Tall Numbers
- | One 3-Digit Number
- | Up to 11 Displays without Booster
- | High Brightness LEDs

The Model 930 Remote Display works with the Model 9040 Keypad. It shows one 3-digit number at a time while the 9040 is showing four 3-digit numbers at a time. This means that the numbers shown on the 9040 Keypad may not be at any given instant the same as the numbers on the 930 Remote Display. However, all numbers will be displayed in sequential order by the 930.



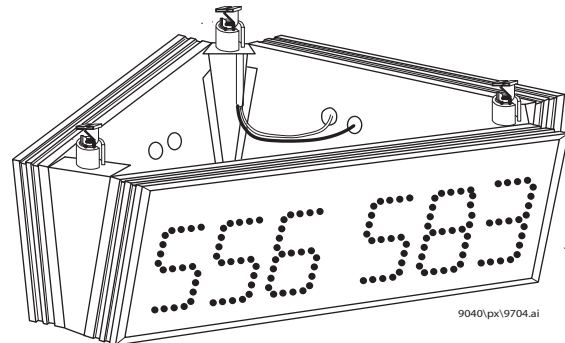
Every "Rollover Time" the next number will be sent to the 930. You may have a Model 9430, Model 930 and a Model 9230 all connected to the same Keypad, and each Remote Display will show all numbers in the system one screen at a time.

Model 9230 Display Operation

Display Features

- | 5.5-Inch Tall Numbers
- | Two 3-Digit Numbers
- | Up to 4 Displays without Booster
- | High Brightness LEDs

The Model 9230 Remote Display works with the Model 9040 Keypad. It will show two 3-digit numbers at a time while the 9040 is showing four 3-digit numbers at a time. This means that the numbers shown on the 9040 Keypad may not be at any given instant the same as the numbers on the 9230 Remote Displays. However, all numbers will be displayed in sequential order by the 9230. Every "Rollover Time"



the next set of three numbers will be sent to the 9230. You may have a Model 9430, Model 930 and a Model 9230 all connected to the same Keypad, and each Remote Display will show all numbers in the system one screen at a time.

4 PROGRAMMING INSTRUCTIONS

4.1 PROGRAMMING OPTIONS

The following user programmable options are available in the Model 9040 Keypad. **(NOTE: If your system has more than one Keypad, you must program each Keypad when all other Keypads are turned off.)**

- Option 13 changes display rotation time from 0 to 9 seconds
- Option 14 automatically deletes numbers after a delay of 1 to 99 minutes
- Option 15 enables or disables auto delete
- Option 17 deletes Keypad sound
- Option 18 enables Quick Delete
- Option 19 resets to factory defaults
- Option 23 enables or disables blink alert mode
- Option 24 set desirable time for slow blink
- Option 25 set desirable time for fast blink

4.2 PROGRAM MODE

To enter the Programming Mode, HOLD the ZERO key down when turning the Model 9040 ON. The Model 9040 will display the serial number and software revision number as follows: Release the ZERO key. You are now in the Programming Mode and your screen will appear as follows:

```
SERIAL #1234
REV #01
```

To change any of the factory selected defaults, select Program Area #1 and the Option Number listed below. Should the message **EE--FROM** appear at any time, return the system to the factory defaults (Program Area 1, Option Number 9) and start over.

4.3 DISPLAY ROTATION TIME (13)

When you have more than four numbers displayed at one time, the screen rotates every so often to show the next screen full of numbers. This is the time each screen is shown before going to the next screen. The factory default is 3 seconds. To change this time, press 1 and the following screen will appear:

```
Program Area #1
```

Now Press 3 and the following screen will appear.

```
Program Area #1
Rollover      3
```

Factory default is 3 seconds. Now type in the number of seconds each screen is to be displayed, i.e., 4 seconds.

```
Program Area #1
Rollover      4
```

Now press ENTER, and your new Rollover time of 4 seconds is saved. If you accidentally press another number, press DELETE. In either case your local display now shows:

```
SERIAL #1234
REV #01
```

The Keypad is ready for your next programming change, or you may press DELETE again to return to the normal operation of the Keypad.

4.4 AUTOMATIC DELETE (14)

Each number will automatically be deleted from the system after the user programs the time delay. Factory default is 30 minutes. You may program that number as follows. Press 1 to enter Program Area #1, then press 4 and your screen will show:

```
Program Area #1
Delete Time   00
```

You may now enter the number of minutes you wish each number to remain displayed on the system, i.e., 15. Your screen will now look like:

```
Program Area #1
Delete Time   15
```

Now press ENTER, and your new Delete Time of 15 minutes is saved. If you accidentally press another number, press DELETE. In either case your display now shows:

```
SERIAL #1234
REV #01
```

The Keypad is ready for your next programming change, or you may press DELETE again to return to the normal operation of the Keypad.

4.5 ENABLE KEYBOARD BEEP (17)

Each time you press a key on the 9040, you will hear a small beep to let you know the key has made contact. If you wish to disable this beep, you may do so after pressing 1 to enter Program Area #1, then press 7 and your screen will show:

```
Program Area #1
Beep Enable 1
```

To enable beep press 1, to disable beep press 0. You may now make your selection by pressing 1 (or 0). If you press 0 your screen will now look like:

```
Program Area #1
Beep Enable 0
```

Now press ENTER and your selection is saved. If you accidentally press another number, press DELETE. In either case your display now shows:

```
SERIAL #1234
REV #01
```

The Keypad is ready for your next programming change, or you may press DELETE again to return to the normal operation of the Keypad.

4.6 QUICK DELETE (18)

"Quick Delete" makes the 9040 automatically delete when two numbers are typed in rather than automatically enter the numbers. This is helpful for applications which have two Keypads (one for entering and one for deleting). To program this option, press #1 to get into Program Area #1 then press 8. Your screen will show:

```
Program Area #1
Quick Delete 0
```

To enable "Quick Delete," press 1 then ENTER; or to disable press 0 then ENTER. Your display now shows:

```
SERIAL #1234
REV #01
```

The Keypad is ready for your next programming change, or you may press DELETE again to return to the normal operation of the Keypad.

4.7 RESTORE FACTORY DEFAULTS (19)

You may restore all the factory defaults for programming by pressing 1 to enter Program Area #1 then press 9. Your system will be restored to the Factory Defaults and the screen will show:

```
SERIAL #1234
REV #01
```

The Keypad is ready for your next programming change, or you may press DELETE again to return to the normal operation of the Keypad.

4.8 ENABLE BLINK ALERT MODE (23)

Blink Alert causes the displayed numbers to begin to blink slow then fast after a programmed amount of time. To enable the blink alert mode, press "2" when in the programming mode (see next page). Next, press "3". Your screen will show:

```
Blink Mode ON =1
OFF = 0 0
```

Press "1" followed by ENTER to *enable*, Press "0" followed by ENTER to *disable*. See further instructions on the next page.

4.11 ENABLE/DISABLE AUTO DELETE (15)

Each number will automatically be deleted from the system after a user programmable time delay. To enable or disable this function, see programming flow chart on next page.

4.9 SLOW BLINK ALERT MODE (24)

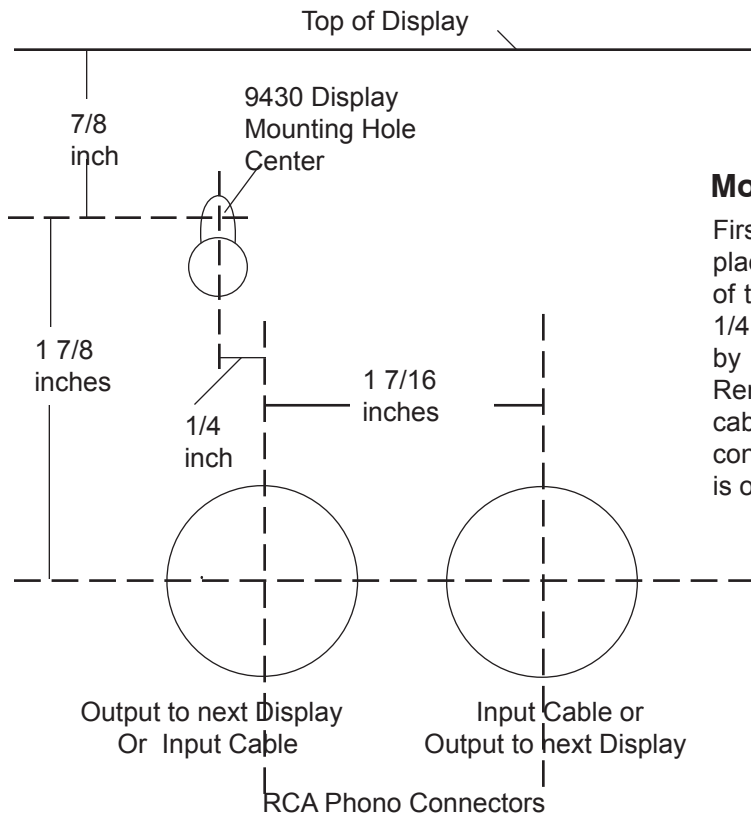
Each number will start to blink slow after a programmed time delay. The programming for this is done in steps. The blink alert mode must be enabled first. Next, the Auto Delete mode must be enabled or disabled. Refer to the flow chart on next page for further instructions.

4.10 FAST BLINK ALERT MODE (25)

Each number will start to blink fast after a programmed time delay. Programming is done in steps, starting with enabling the blink alert mode. Next, the Auto Delete mode must be enabled or disabled. Refer to the programming flow chart on the next page.

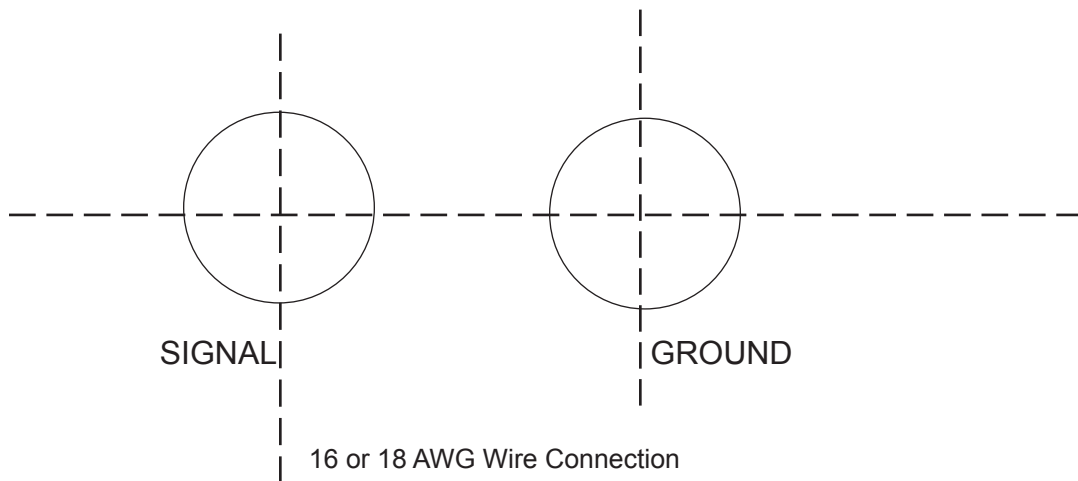
*To enter programming mode, see next page

9430 DISPLAY MOUNTING TEMPLATE



Model 9430 Template

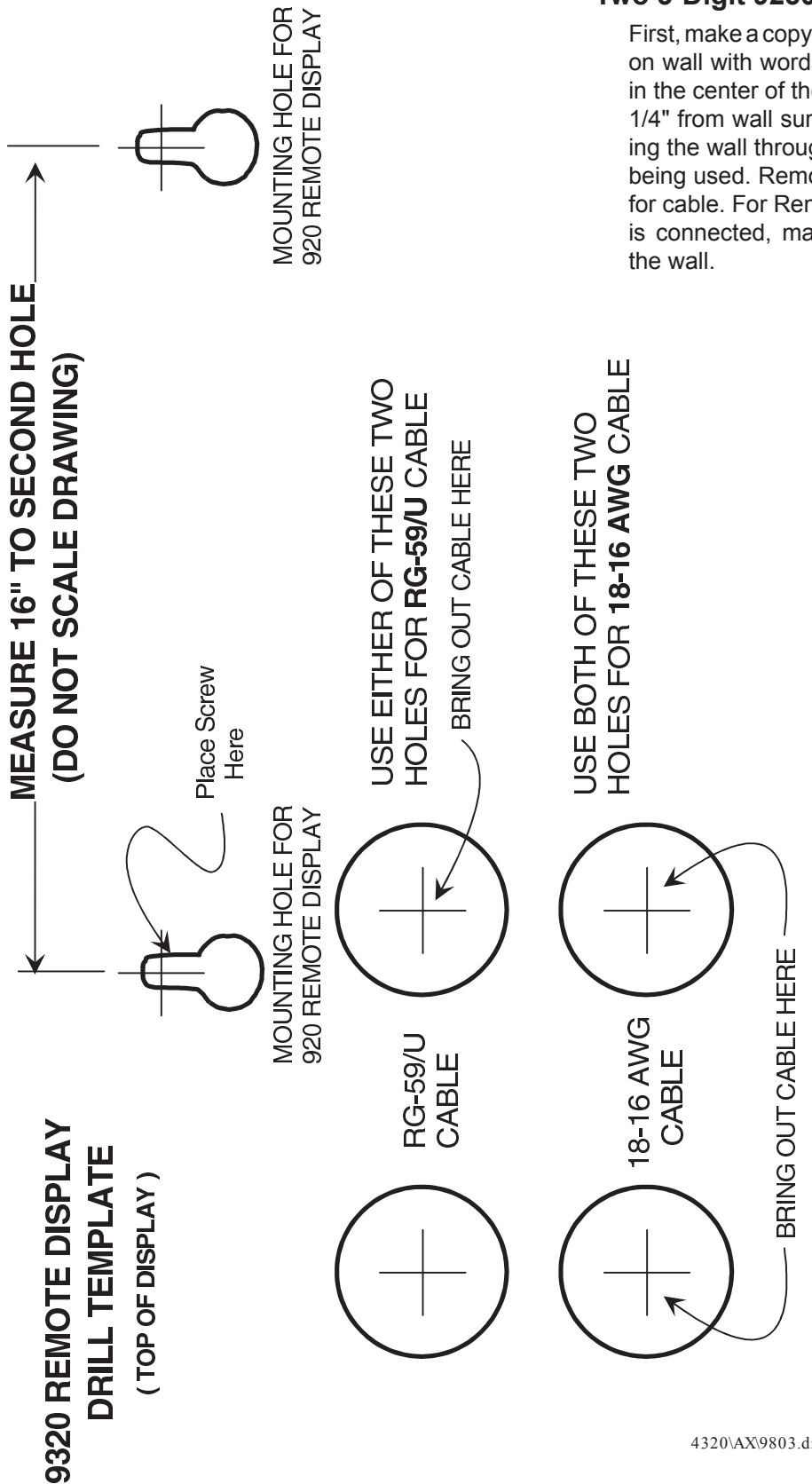
First, make a copy of this template. Then place on wall and start screw in the center of the screw hole. Leave screw head out 1/4 inch from wall surface. Locate cable hole by marking the wall through the template. Remove template and drill hole in wall for cable. For Displays where a second cable is connected, mark both holes while template is on wall.



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9230 DISPLAY MOUNTING TEMPLATE



Two 3-Digit 9230

First, make a copy of this template. Then place template on wall with words facing toward you and start screw in the center of the screw hole. Leave screw head out 1/4" from wall surface. Locate cable hole(s) by marking the wall through the template for the type of cable being used. Remove template and drill 1" hole in wall for cable. For Remote Displays where a second cable is connected, mark both holes while template is on the wall.

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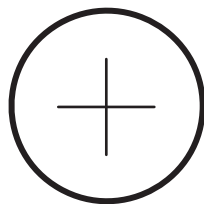
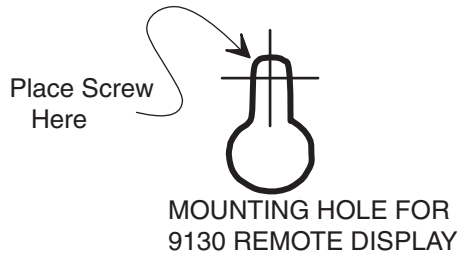
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930 DISPLAY MOUNTING TEMPLATE

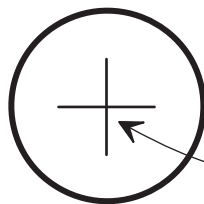
One 3-Digit 930

First, make a copy of this template. Then place template on wall with words facing toward you and start screw in the center of the screw hole. Leave screw head out 1/4" from wall surface. Locate cable hole(s) by marking the wall through the template for the type of cable being used. Remove template and drill 1" hole in wall for cable. For Remote Displays where a second cable is connected, mark both holes while template is on the wall.

9130 Remote Display Drill Template (Top of Display)

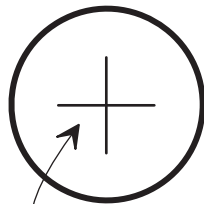


RG-59/U
CABLE

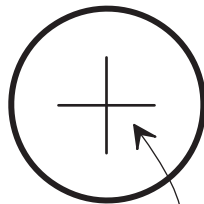


USE EITHER OF THESE TWO
HOLES FOR **RG-59/U** CABLE

BRING OUT CABLE HERE



18-16 AWG
CABLE



USE BOTH OF THESE TWO
HOLES FOR **18-16 AWG** CABLE

BRING OUT CABLE HERE

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MAXIMUM CABLE LENGTH TABLE

The following chart shows the maximum number of Remote Displays that can be installed per cable length indicated. The cable length can be increased by simply putting fewer Remote Displays on EACH CABLE connected to the Model 9040 Keypad. However, if greater distance is required, simply use 16 AWG wire from the Keypad. The TOTAL CABLE LENGTH (Sum of length of all cables in the system) should not exceed 10,000 feet.

CABLE LENGTH CHART FOR 18 AWG WIRE, OR 16 AWG WIRE

Model 930		
One 3-Digit Number Display		
# of Displays	Distance	
	18 AWG	16 AWG
1	2000	2000
2	2000	2000
3	2000	2000
4	2000	2000
5	1500	2000
6	1100	1800
7	800	1300
8	600	1000
9	400	700
10	300	500
11	200	400
12	100	100

Model 9230		
Two 3-Digit Number Display		
# of Displays	Distance	
	18 AWG	16 AWG
1	2000	2000
2	1100	1800
3	400	700
4	100	100

Model 9430		
Four 3-Digit Number Display		
# of Displays	Distance	
	18 AWG	16 AWG
1	2000	2000
2	1200	2000
3	600	900
4	200	400

TROUBLESHOOTING CHART

SYMPTOM	POSSIBLE CAUSE	CURE
Keypad Display and Remote Display both blank.	Keypad is not connected to power. AC Adapter is bad or Keypad fuse blown.	Check AC wall connection or change to another wall outlet. Replace Model 9040 Keypad fuse.
Keypad Display works but Remote Display does not light up or Remote Display has erratic numbers.	Poor signal connection to Remote Display or no signal connection.	Check signal cable connections or move Remote Display close to the Model 9040 Keypad and test with a short cable to determine if the problem is in the Remote Display units or in the cable.
Keypad works but Remote Display does not work and Keypad Displays SHORT 3 .	Keypad or Display has failed.	Disconnect Keypad from Display. If message remains, then return Model 9040 Keypad to factory. If problem goes away, then call factory for help to isolate whether it is the cable or Display.
Model 9040 Keypad works until the cable is plugged in, then it displays SHORT 1 or 2 .	Shorted cable. SHORT 1 —short within 100 ft. of 9040. SHORT 2 —short over 100 ft. from 9040.	Check connectors for shorts. Repair or replace cable.
Keypad Display shows EEPROM .	Programming error.	Reset to Factory Defaults 19 (see Programming Instructions).

EXPLANATION OF ERROR CODES

There are four error conditions that will cause an Error Code to be illuminated in the Model 9040 Keypad local display. It will be of great assistance in troubleshooting your system if you will note what code is illuminated when you call the factory for assistance. Call 1-800-635-3811 for technical support.

ERROR MESSAGE	CAUSE
SHORT 1 Shorted Cable	The cable is shorted within 100 feet of the Model 9040 Keypad.
SHORT 2 Shorted Cable	The cable is shorted greater than 100 feet from the Keypad, probably at the Remote Display.
SHORT 3 No Signal Out	The output is shorted high and there are no numbers shown on the Remote Displays. See "Short 3" above.
EEPROM Programming Error	There is a programming error. Return Model 9040 Keypad to Factory. Defaults by PRESSING 19 in the Programming Mode. (See Programming Instructions for more details.)

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