

# Microframe Corporation

Series 906:  
6-Digit Visual-Paging System



**Operating Manual**

A0906-7010



## 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](mailto: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 906**

**INSTALLATION & SPECIFICATION GUIDE**

**ITEM NO: A0906-7010**  
**REVISION DATE: 11/09**

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# TABLE OF CONTENTS

<b>MODEL 906 SPECIFICATIONS</b> .....	<b>6</b>
<b>MODEL 960 SPECIFICATIONS</b> .....	<b>7</b>
<b>1 PRE-INSTALLATION PROCEDURES</b> .....	<b>8</b>
1.1 TEST KEYPAD .....	8
1.2 TEST KEYPAD AND CABLE .....	8
1.3 TEST KEYPAD, CABLE, DISPLAYS .....	8
<b>2 INSTALLATION PROCEDURES</b> .....	<b>9</b>
2.1 KEYPAD INSTALLATION.....	9
2.2 DISPLAY INSTALLATION.....	9
2.3 CABLE INSTALLATION .....	9
2.4 DISPLAY CONNECTION.....	10
<b>3 OPERATION</b> .....	<b>11</b>
3.1 INSTRUCTIONS FOR USE .....	11
3.2 NORMAL MODE .....	11
3.3 ENTER MODE .....	11
3.4 DELETE MODE .....	11
3.5 MULTIPLE PAGING .....	11
3.6 MULTIPLE OUTPUTS.....	11
3.7 MULTIPLE INPUTS.....	11
3.8 POWER CONNECTION .....	11
3.9 FUSE .....	11
3.10 PROGRAMMING OPTIONS .....	12
3.11 OPTION CONNECTIONS.....	12
<b>4 DISPLAY OPERATION</b> .....	<b>13</b>
4.1 POWER .....	13
4.2 MAXIMUM NUMBER OF DISPLAYS.....	13
4.3 SYSTEM SIGNAL CONNECTION .....	13
<b>VISUAL-PAGER CONNECTION DIAGRAM</b> .....	<b>14</b>
<b>DETAILED VISUAL-PAGER CONNECTION</b> .....	<b>15</b>
<b>MULTIPLE KEYPAD CONNECTION</b> .....	<b>16</b>
<b>MAXIMUM CABLE LENGTH TABLE</b> .....	<b>17</b>
<b>960 REMOTE DISPLAY MOUNTING TEMPLATE</b> ....	<b>18</b>
<b>5 PROGRAMMING OPTIONS</b> .....	<b>19</b>
5.1 PROGRAMMING MODE .....	19
5.2 PROGRAMMING OPTIONS .....	19

5.3 DISPLAY ROTATION TIME 13 .....	19
5.4 AUTOMATIC DELETE 14 .....	19
5.5 ENABLE KEYBOARD BEEP 17 .....	20
5.6 DELETE OPTION 18 .....	20
5.7 RESTORE FACTORY DEFAULTS 19 .....	20
5.8 SORT OPTION 21 .....	20
5.9 DELETE DUPLICATES 23.....	20
5.10 SONG MODE.....	20
<b>EXPLANATION OF ERROR CODES .....</b>	<b>21</b>
<b>TROUBLESHOOTING CHART .....</b>	<b>21</b>



# MODEL 906 SPECIFICATIONS

## Keypad

### Features

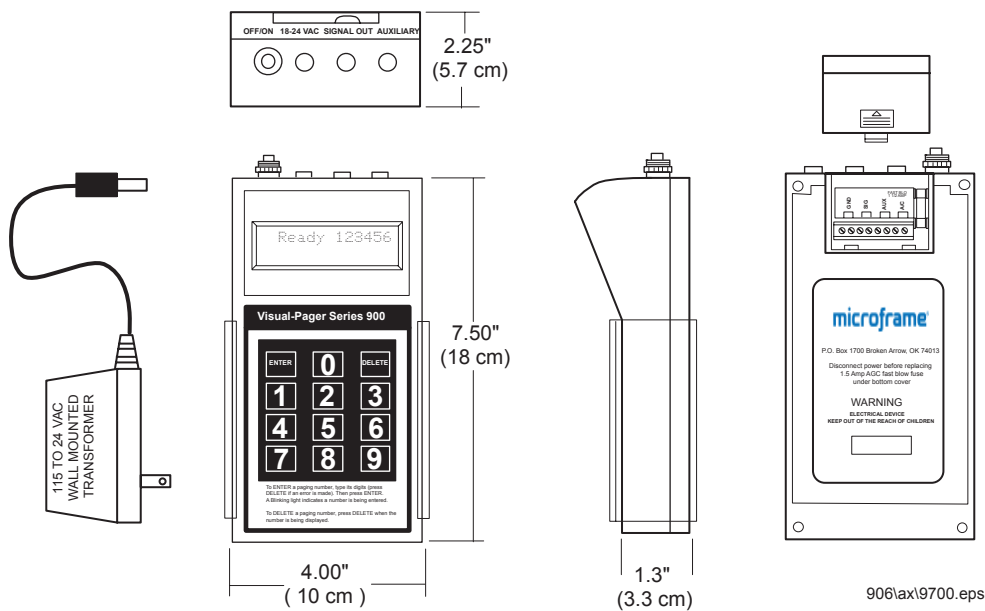
The Model 906 Keypad is designed to operate with the 960 Display. Each Display has 5.5 inch tall digits viewable from up to 125 feet and is encased in an aluminum extruded cabinet.

### Operation

Upon entering a number into the Keypad, the number is sent immediately to the Display. The Keypad will store up to twenty-six 6-digit numbers and display them sequentially until the operator deletes them.



Microframe® Model 906 Keypad



### Model 906 Specifications

Local Keypad Display .....	Built-in LCD Readout
Maximum Number of Digits .....	Six Digits
Maximum Number of Keypads .....	Up to 32 Keypads
Maximum Numbers Stored .....	Twenty-Six 6-Digit Numbers
Power Input Requirements .....	24VAC 1.2A supplied by transformer which requires 115 Volts AC @ .72 Amps
Fuse Requirements .....	1.5 Amp GMA (5mm x 20mm) fast-acting fuse
Weight .....	.75 lb (.4 kg), with transformer 2.25 lb (1.0 kg)

**Support and Sales**  
**800-635-3811**

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# MODEL 960 SPECIFICATIONS

## Remote Display

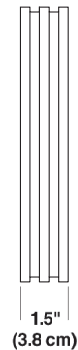
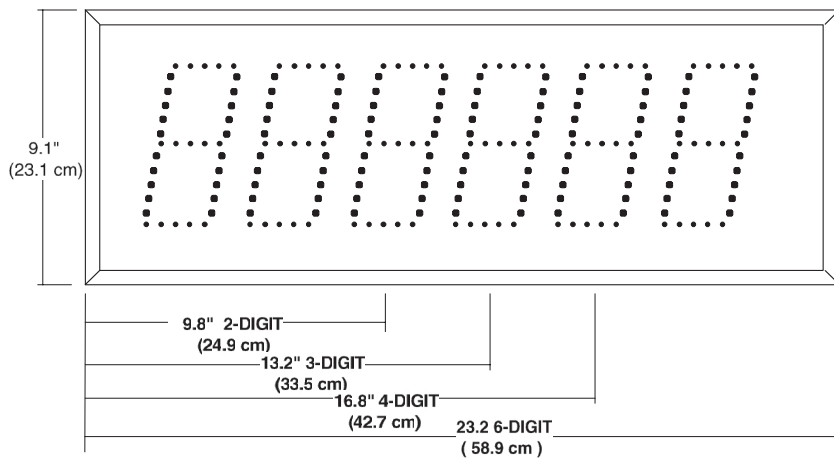
### Operation

The 960 Remote Display is designed to operate with the Model 906 Keypad or Model 6200 Timer Keypad. The Remote Display receives power and signal from a single cable connected to the Keypad and is turned on or off with the Keypad power switch.



Microframe® Model 960 Display

### Model 960 Remote Display



A0906VAX\9701.drw

### Model 960 Specifications

Remote Display .....	Wall mount 5.5" Tall LED Display
Maximum Distance .....	2,000 feet = 1 Display 300 feet = Full Load of Displays using 16 AWG Paired Wire
Maximum Number of Displays.....	Up to 12 two-digit displays, 9 three-digit displays, 7 four-digit displays, or 5 six-digit displays without an additional booster amp
Power Input Requirements .....	Power supplied by Keypad
Character Viewing Distance .....	125 Feet in Normal Light
Case .....	Aluminum Case with Plexiglas Faceplate
Weight .....	6-Digit, 5.25 Lbs (2.4 kg)

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# 1 PRE-INSTALLATION PROCEDURES

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

## 1.1 TEST KEYPAD

Connect the wall mount transformer to the Model 906 Keypad at the **18-24 VAC connector**. Turn power "ON" and enter a number. If the number appears on the Keypad display, the Keypad is working.

## 1.2 TEST KEYPAD AND CABLE

Turn power "OFF" and select the cable to be used between the Keypad and the LED Display. Connect one end of this cable to the Keypad (see **Visual-Pager Connection Diagram**). Make sure the wires on the loose end of the cable are not touching. Turn the power "ON." Type in a number and press "ENTER." 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. Otherwise, if the system appears to work correctly, then continue.

## 1.3 TEST KEYPAD, CABLE, DISPLAYS

Turn power "OFF." Connect the other end of the cable to the Display and verify that it works by turning the power "ON" and typing in a number and pressing "ENTER." If the message `Short 1` or `Short 2` appears, there is a short in the Display. Should the message `Short 3` appear, the Model 906 Keypad has failed and needs to be returned for service. 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 means it is not making a connection, or it has a broken wire.

## 2 INSTALLATION PROCEDURES

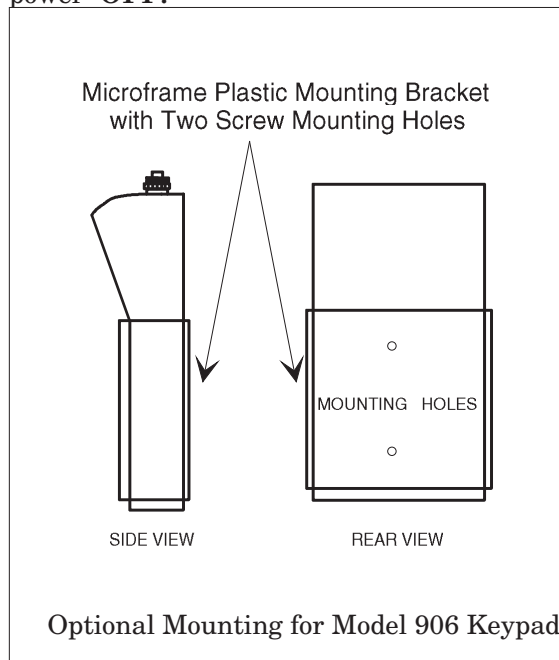
### 2.1 KEYPAD INSTALLATION

Install the Keypad in a convenient location. The Model 906 Keypad may be mounted on a table top or on the wall. Place the Keypad in a location where the cord from the wall-mount transformer will not be accessible to children or present a safety hazard. The installation location must be within 5 feet of an AC power outlet so that the cord may reach the Keypad.

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

Only the Keypad needs an AC outlet for the wall mount transformer, which powers both the Model 906 Keypad and the Remote Display(s).

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



### 2.2 DISPLAY INSTALLATION

The Remote Display will have optimum visibility when mounted vertically within three or four feet of eye level. This will keep the Display in the proper field of view 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 either Display yet.

### 2.3 CABLE INSTALLATION

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** (page 17). 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 **Connection Diagrams**.)

If you are using RG/59U and 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 display shows "Ready," type in a number and press "ENTER." If Error Codes `Short 1` or `Short 2` appear, then there is a short in your cable and it needs to be repaired before proceeding.

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

If you turn your Keypad "ON" and the Keypad does not show "Ready," you may have blown a fuse. Turn power "OFF" and remove transformer from wall outlet.

**IMPORTANT**  
**UNPLUG THE TRANSFORMER FROM THE OUTLET BEFORE REPLACING THE FUSE.**

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 906 SPECIFICATIONS to prevent permanent damage to the Keypad.

## 2.4 DISPLAY CONNECTION

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." Both the local Keypad display and the Remote Display should be blank. Now type in a number and press "ENTER." The number you enter should appear on the Keypad display and the Remote Display. If nothing is shown on the Remote Display, then the signal cable is *open*. (This means it has not made connection or it has a broken wire.) Check the connectors and replace if necessary. If Error Code E3 appears, the Model 906 needs to be returned for service.

Return the warranty card immediately to register your purchase and begin your warranty period. Registering will not affect your right to return the system during a 30-day trial period.

**CAUTION**  
**24-VAC VOLTAGES ARE PRESENT**  
**UNDER THE SMALL SLIDE-ON COVER.**

## 3 OPERATION

### 3.1 INSTRUCTIONS FOR USE

The Model 906 Keypad has its own built-in, easy-to-read display so that you can see what numbers are being entered, as well as what numbers are being shown on the Remote Display.

### 3.2 NORMAL MODE

While in normal mode, the local Keypad display will show the same numbers as the Remote Display.

### 3.3 ENTER MODE

When a number button is pressed, the Keypad will go into enter mode and the **"ENTER"** light will flash and the LCD Display will show ENT/DEL in the lower right-hand corner. The number currently on the Remote Display will continue to show in the upper right corner of the Display while the number you are entering will show in the upper left-hand corner of the Display. Continue to press number buttons until the complete number to be paged is shown. Then press **"ENTER"** to display the paging number on the Remote Display. When **"ENTER"** is pressed, the Keypad will leave the enter mode and the new number will be placed in sequence with any other numbers displayed on the Remote Display. If you make an error while entering a number, press **"DELETE."** If you attempt to enter over 26 numbers into the system, the "Ready" message will change to "Full" until a number is deleted from the Keypad.

### 3.4 DELETE MODE

To delete a paging number, press **"DELETE"** when that number appears on the Display. The next available number will be displayed immediately. You may also delete a number at any time by typing the number and pressing **"DELETE."**

### 3.5 MULTIPLE PAGING

The Keypad will store up to twenty-six 6-digit numbers and display them sequentially until the operator deletes them.

### 3.6 MULTIPLE OUTPUTS

The 906 Keypad will power up to five Model 960 Remote Displays in combinations up to 2,000 feet from the 906 Keypad, provided the recommended wire is used (see **Maximum Cable Length Table**).

The 904 Keypad is generally used to power the 920, 930, and 940 Displays. However, the 906 may also be used to support twelve Model 920 Displays, nine Model 930 Displays or seven Model 940 Displays.

### 3.7 MULTIPLE INPUTS

You may cascade up to 32 Model 906 Keypads on the same common cable connected to the **"Signal Out"** output from each Keypad. Numbers entered from each Keypad will automatically be combined and displayed in sequence with all the numbers entered from all Keypads. Each Keypad will display all numbers entered from itself as well as all numbers entered from all other Keypads at the same time they are displayed on the Remote Display(s). A number may be deleted by pressing **"DELETE"** on any Keypad when that number appears in the Keypad display, or by typing in the number then pressing **"DELETE."**

### 3.8 POWER CONNECTION

Connect the wall mount transformer to an AC outlet and connect the power plug to the connector on the top of the Keypad marked **"18-24 VAC."** It is recommended that you turn the power off using the **"ON/OFF"** switch on the Keypad when not in use. This will greatly prolong the life of the system.

### 3.9 FUSE

The Model 906 Keypad contains a fuse inside the case under the small slide-on cover.

#### WHEN REPLACING THE FUSE, BE SURE TO DISCONNECT POWER FROM THE AC WALL OUTLET.

Replace only with the fuse size stated in the 906 SPECIFICATIONS, otherwise permanent damage may occur.

### 3.10 PROGRAMMING OPTIONS

The following user programmable options are available in the Model 906 Visual-Pager. (See **Programming Instructions** for details.)

Option 13....Change Display rotation time from 0 to 9 seconds. When 0 is selected, the display will only rotate one number each time the **DELETE** button is pressed.

Option 14....Automatically delete numbers after a delay of 1 to 9 minutes.

Option 17....Delete Keypad sound

Option 18....Delete option

Option 19....Reset to Factory Defaults

Option 21....Cancel Number Sort

Option 23.....Delete Duplicates

### 3.11 OPTION CONNECTIONS

The Model 906 Keypad has two 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 a transformer other than the wall mounted one supplied with the system is required, such as an attic-mounted transformer installation.

## 4 DISPLAY OPERATION

- | 5.5" LED Numbers
- | 6-Digit Remote Displays
- | No AC Power Required
- | Single Cable Installation
- | Simple Surface Mount

### 4.1 POWER

The Model 960 Remote Displays are designed to operate with the Model 906 Keypad. When the Keypad is turned off, the Model 960 Remote Displays are automatically turned off. An AC power outlet is not used at the Remote Display.

### 4.2 MAXIMUM NUMBER OF DISPLAYS

The 906 System can power up to five Model 960 Remote Displays. **These Display limits still apply for systems which have multiple Keypads.**

However, if additional Remote Displays are needed for a system, a Model 160 Booster Amp may be added.

### 4.3 SYSTEM SIGNAL CONNECTION

Refer to **Connection Diagrams** for details. 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 906 Keypad. If you are using the RCA connectors, then connect the cable to the Keypad where it is marked "**Signal Out.**"

**NOTE:** The "**Auxiliary Connector**" should not be used with the 900 Series Displays.

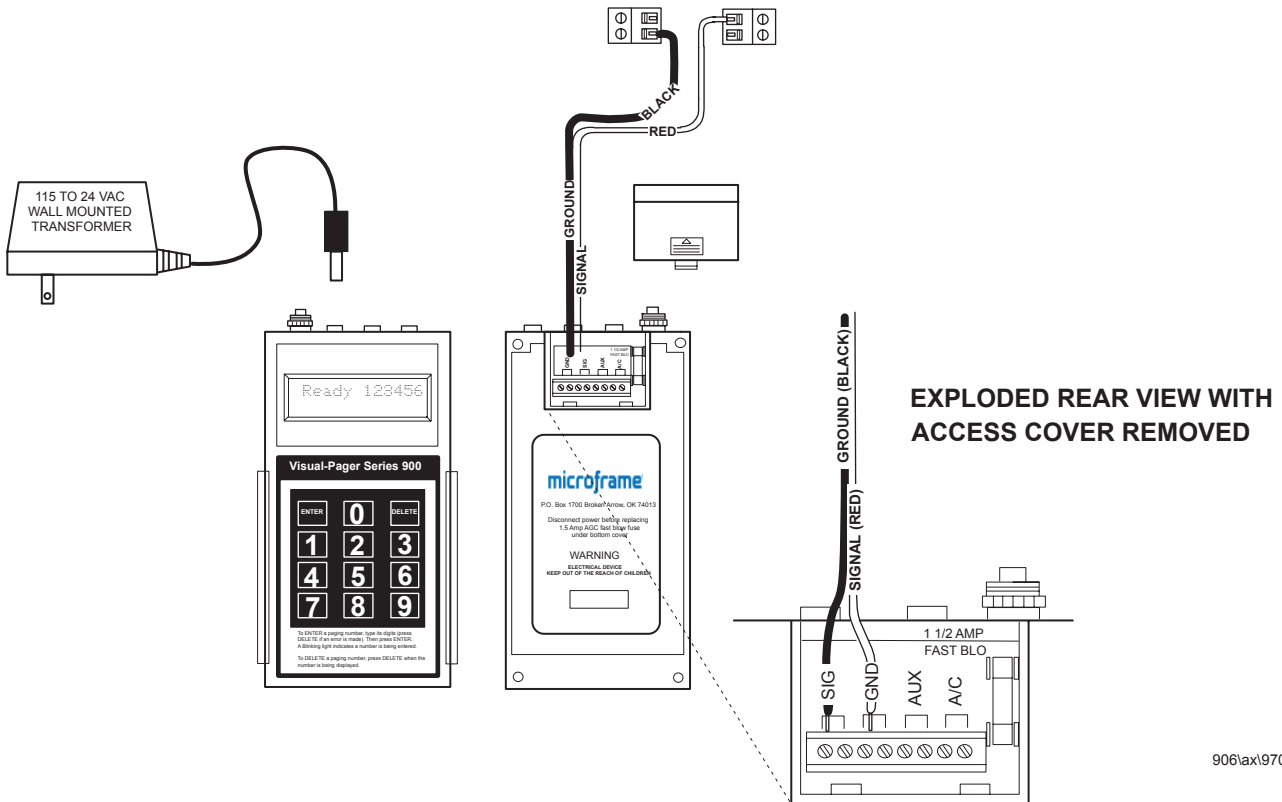
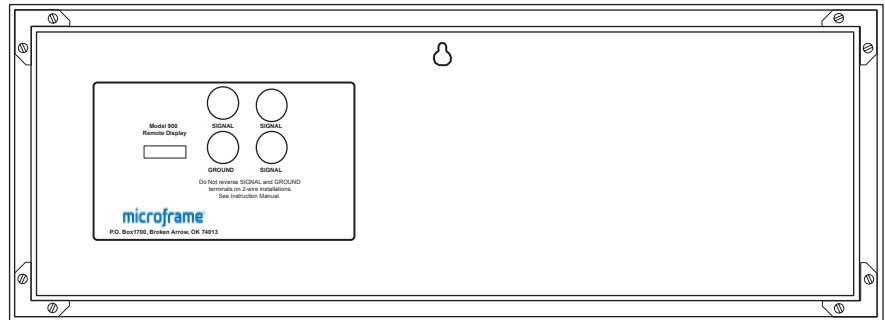
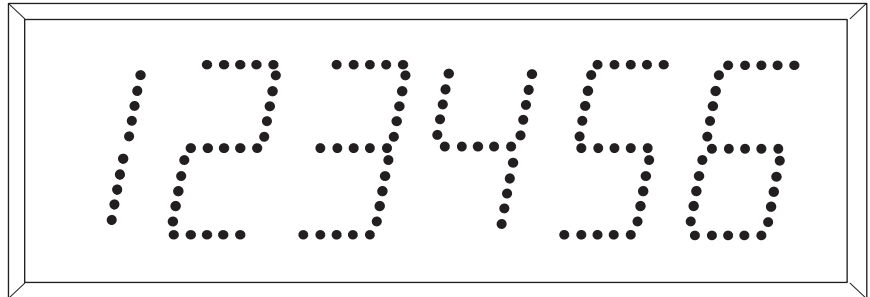
For 16 or 18 AWG paired wire installations, use the two-conductor terminal block located inside the rear cover. Be very careful to observe **SIGNAL** and **GROUND** polarity. There is a second set of connectors to use if running another wire to the next Display.

If you are using RCA connectors, then connect the coaxial cable to either "**Signal**" connector on the Model 960 Remote Display. To add a second Remote Display, connect one end of the signal cable to the other RCA phono connector on the first Remote Display and the other end to either connector on the next Remote Display.

# VISUAL-PAGER CONNECTION DIAGRAM

## Using 16 or 18 AWG Paired Wire

The VISUAL-PAGER may be connected with common 16 or 18 AWG paired wire utilizing the terminal blocks located at the rear of the Remote Displays and under the small slide-on cover of the Model 906 Keypad.



# DETAILED VISUAL-PAGER CONNECTION

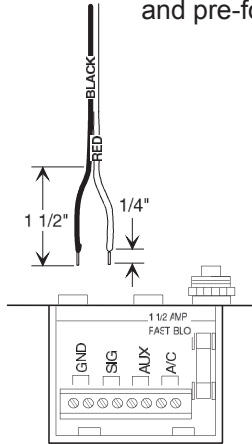
## STEP 1:

Remove slide-on cover.

## STEP 2:

Remove 1.5" insulation from cable jacket and separate wires.

Strip 1/4" insulation from each wire and pre-form wires as shown.



## STEP 3:

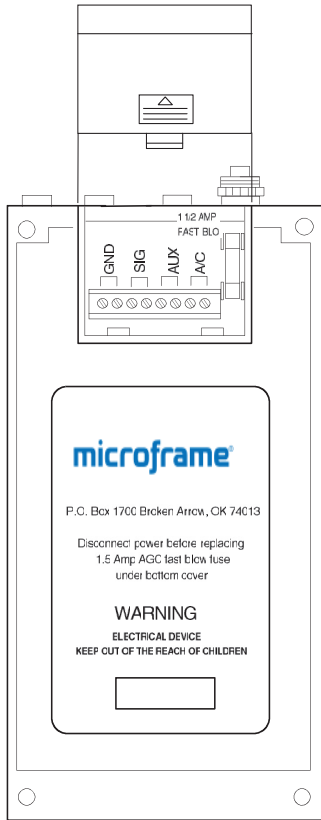
Insert Black Wire in one of the terminals marked GND.

Insert Red Wire in one of the terminals marked SIG.

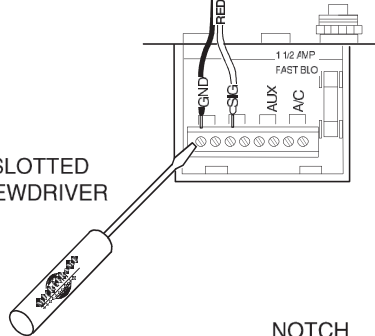
Tighten terminal screws using a 1/8" Slotted Screwdriver.

## STEP 4 ( If required ):

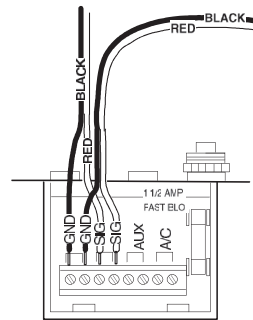
If a second set of wires are required at the Keypad, repeat Step 3 being careful not to reverse the SIG and GND connections.



1/8" SLOTTED SCREWDRIVER



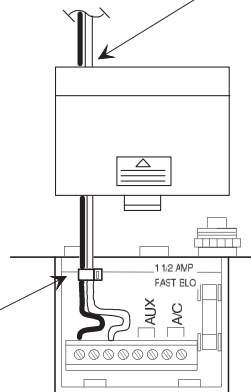
NOTCH



## STEP 5:

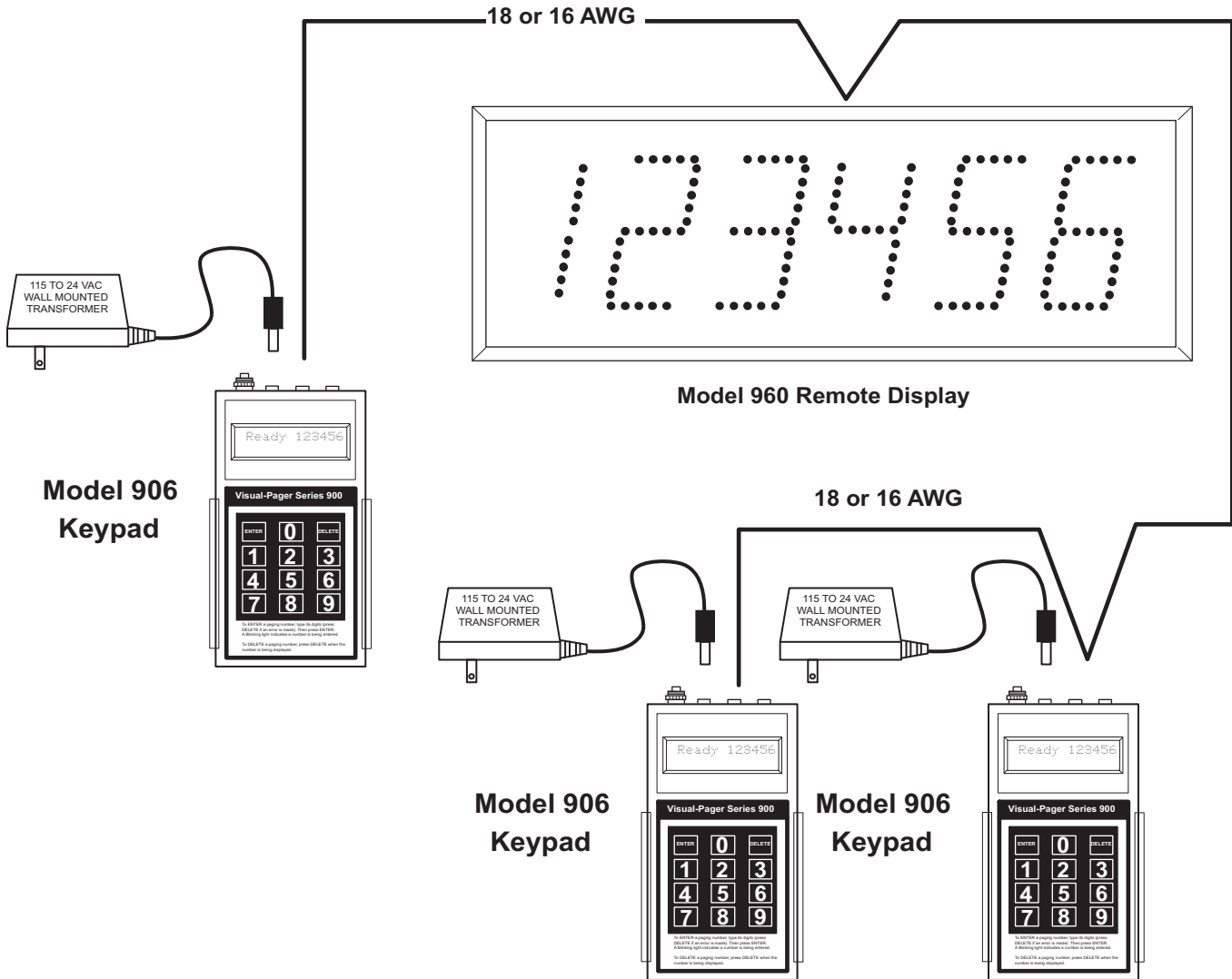
Install slide-on cover being careful to first form wires so the Ty-wrap is inside the case as shown. The slide-on cover has a notch for the wires to fit through.

Ty-Wrap



# MULTIPLE KEYPAD CONNECTION

You may connect your second Keypad as shown in the examples below.



906lax\9703.eps

Model 906 Keypads may be connected at any point along the signal cable. The 900 Series VISUAL-PAGER will work as long as one of the Model 906 Keypads is turned on. Other Model 906 Keypads may be turned on at any time; however, they should not be turned OFF as long as numbers are being displayed. (Refer to the Maximum Cable Length Chart for proper cable selection.) The system may be connected in many other configurations provided they are all hooked together and the SIGNAL/ GROUND polarity is maintained (see Visual-Pager Connection Diagrams).

## MAXIMUM CABLE LENGTH TABLE

The following chart shows the maximum number of 6-digit 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 906 Keypad. For example, when using 18 AWG wire, you can install a maximum of four Model 960 (6-digit) Remote Displays up to 700 feet from the Keypad on a single cable. However, if greater distance is required, simply use 16 AWG wire from the Keypad. You can now install four Model 960 (6-digit) Remote Displays up to 1,200 feet 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

<b>Model 960 6-Digit Displays</b>		
# of Displays	Distance	
	18 AWG	16 AWG
<b>1</b>	<b>2000</b>	<b>2000</b>
<b>2</b>	<b>2000</b>	<b>2000</b>
<b>3</b>	<b>1300</b>	<b>2000</b>
<b>4</b>	<b>700</b>	<b>1200</b>
<b>5</b>	<b>200</b>	<b>300</b>

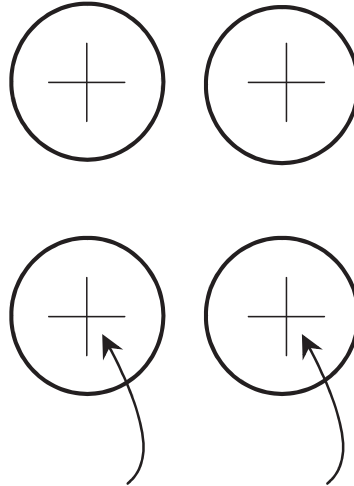
# 960 REMOTE DISPLAY MOUNTING TEMPLATE

TOP OF DISPLAY

## 960 REMOTE DISPLAY DRILL TEMPLATE



MOUNTING HOLE FOR  
940 REMOTE DISPLAY



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

USE EITHER OF THESE TWO  
HOLES FOR **18-16 AWG** CABLE  
BRING OUT CABLE HERE

9X06801

### Model 960 (6-Digit)

#### Remote Display Template

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.

## 5 PROGRAMMING OPTIONS

### 5.1 PROGRAMMING MODE

To enter the Programming Mode, HOLD the "ZERO" key down when turning the Model 906 "ON." The Model 906 will display the Serial Number. Release the "ZERO" key. You are now in the programming mode. To change any of the factory selected defaults, select the option number listed below and press that number. To exit the programming mode, simply press "DELETE." Should the error code "E4" appear at any time, please return to the factory defaults by pressing "19" and start over.

### 5.2 PROGRAMMING OPTIONS

The following user programmable options are available in the Model 906 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. [Default 3 Seconds]
- Option 14 .... automatically deletes numbers after a delay of 1 to 9 minutes. [Default 0 No Delete]
- Option 17 .... enable/disable Keypad sound. [Default 0 Beep Enabled]
- Option 18 .... "Delete" option clears screen or deletes number in stack. [Default 0 Delete Numbers]
- Option 19 .... resets to factory defaults.
- Option 21 ....enable/disable numeric sorting of numbers [Default 0 Sort Numbers]
- Option 23 ....delete duplicates. [Default 0 [No Duplicates Allowed.]

To change any of the factory selected defaults, select Program Area #1 or #2 and the Option Number listed below. Should the message EEPROM appear at any time, return the system to the factory defaults (Program Area 1, Option Number 9) and start over.

### 5.3 DISPLAY ROTATION TIME 13

When you have more than one number in the system, the screen rotates occasionally to show the next number. The time each number is shown before going to the next screen is the rotation time. The factory default is 3 seconds. To change this time, press 1 and the following screen will appear: (NOTE: Rotation time of 0 would be used in Song Mode. See Song

Mode.)

```
Program Area #1
```

Now Press 3 and the following screen will appear.

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

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
  4 Rollover
```

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 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.

### 5.4 AUTOMATIC DELETE 14

As an option each number can be automatically deleted from the system after a user programmable delay. Factory default is 0 (manual delete). You may program Auto Delete as follows: Press 1 to enter Program Area #1, then press 4 and your screen will show:

```
Program Area #1
  0 Delete Time
```

You may now enter the number of minutes you wish each number to remain displayed on the system, i.e. 5. Your screen will now look like:

```
Program Area #1
  5 Delete Time
```

Now press ENTER, and your new Delete Time of 5 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.

## 5.5 ENABLE KEYBOARD BEEP 17

Each time you press a key on the 906 Keypad, 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 by pressing 1 to enter Program Area #1, and then pressing 7. Your screen will show:

```
Program Area #1
 1 Beep Disable
```

To disable the beep press 1, to enable 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
 0 Beep Enable
```

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.

## 5.6 DELETE OPTION 18

The delete option allows the user to type a number in to the 906 Keypad and then push delete rather than waiting for the number to "scroll" by and then pushing delete. The disadvantage to this is that if the user was intending to enter a number and makes a mistake, pushing "delete" would cause the 906 to delete the mistake if it was a valid number. To program this option, press #1 to get into Program Area #1 then press 8. Your screen will show:

```
Program Area #1
 0 Delete Opt
```

To enable "Delete Option," press 0 then ENTER; or to disable press 1 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.

## 5.7 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 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.

## 5.8 SORT OPTION 21

Factory default for the 906 Keypad is to sort all numbers in numeric order. To display numbers in the order they are entered, you must disable this option. To program this option, press #2 to get into Program Area #2, then press 1. Your screen will show:

```
Program Area #2
 0 Sort Opt
```

To enable "Sort Opt," press 0 then ENTER; or to disable press 1 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.

## 5.9 DELETE DUPLICATES 23

This option sets whether or not the 906 allows the user to have multiple entries of the same number. If this is enabled, then the user could only put one instance of each number. If disabled, the user could conceivably put 26 #1's into the 906 Keypad. To program this option, press #2 to get into Program Area #2, then press 3. Your screen will show:

```
Program Area #2
 0 Delete Dups
```

To enable "Delete Dups," press 0 then ENTER; or to disable press 1 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.

## 5.10 SONG MODE

(See Rotation Time)

If the user would like to use the 906 Keypad to show hymn numbers in a song service, the following steps should be taken: (Default is 3 seconds.)

- 1) Program the Rollover time to 0.
- 2) Disable the sort option on the 906.

After these options have been programmed, enter the hymn numbers in the reverse order in which they will be displayed. At the end of each hymn, press the delete button to advance to the next hymn number.

## EXPLANATION OF ERROR CODES

There are four error conditions that will cause an Error Code to appear on the Model 906 Keypad display. It will be of great assistance in troubleshooting the system if you will note the displayed code when calling the factory for assistance. Call 1-800-635-3811 for technical support.

ERROR MESSAGE	CAUSE
<b>Short 1</b> —SHORTED CABLE	The cable is shorted within 100 feet of the Model 906 Keypad.
<b>Short 2</b> —SHORTED CABLE	The cable is shorted greater than 100 feet from the Keypad, probably at the Remote Display.
<b>Short 3</b> —NO SIGNAL OUTPUT	The output transistor is blown and there are no numbers shown on the Remote Displays. <b>DO NOT ATTEMPT TO CORRECT THIS PROBLEM.</b> Return the Model 906 Keypad to the factory.
<b>EEPROM</b> —PROGRAMMING ERROR	There is a programming error. Return Model 906 Keypad to Factory Defaults by <b>PRESSING 19</b> in the Programming Mode (see <b>Programming Instructions</b> for more details).

## TROUBLESHOOTING CHART

SYMPTOM	POSSIBLE CAUSE	CURE
Keypad display and Remote Display are not working.	Keypad is not connected to power. Power supply is bad or Keypad fuse is blown.	Check AC wall connection, or change to another wall outlet. Replace Model 906 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 906 Keypad and try with a short cable to prove whether the problem is in the units or in the cable.
Keypad displays <b>SHORT 3</b> .	Output transistor is blown.	Return Model 906 Keypad to factory.
Keypad displays <b>SHORT 1</b> or <b>SHORT 2</b> .	Shorted cable. <b>SHORT 1</b> is a short within 100 ft of 906. <b>SHORT 2</b> is a short over 100 ft from 906.	Check connectors for shorts. Repair or replace cable.
Keypad display shows <b>EEPROM</b> .	Programming error.	Reset to Factory Defaults (See Programming Instructions.)

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