

# Microframe Corporation

## Series 160: Booster Amplifier



# Operating Manual

A0160-7011

\*A0160-7011\*





## **SERIES 160**

### **INSTALLATION & SPECIFICATION GUIDE**

**ITEM NO: A0160-7011**  
**REVISION DATE: 04/02**

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## 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.

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# MODEL 160 SPECIFICATIONS

## Booster Amp

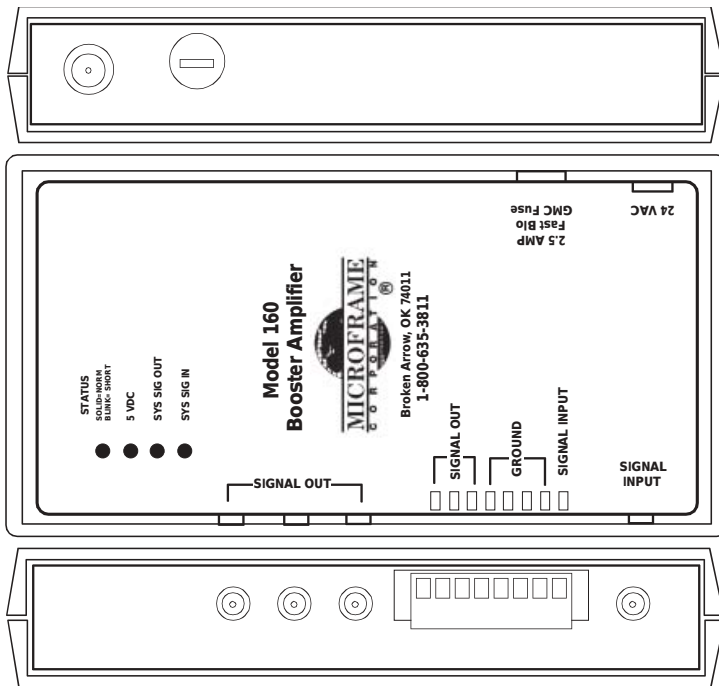
### Features

The Model 160 Booster Amplifier is designed to provide the capability to power additional Visual Pagers. Each Model 160 can power up to 45 digits of any combination of Remote Displays depending on distance.

Additional Model 160 Boosters can be added to the system providing the capability to power a virtual limitless number of Remote Displays.



Microframe® Model 160 Booster Amp



The Model 160 Booster has LED indicators that assist in troubleshooting if there is a short in the cable, or the AC supply is not connected.

There are 3 RCA outputs and 3 screw down elevator clamps to ease the installation process.

| Model 920/4100<br>Displays Distance | Model 930<br>Displays Distance | Model 940<br>Displays Distance | Model 960<br>Displays Distance | Model 9620/4600<br>Displays Distance | Model 4320/9320<br>Displays Distance |
|-------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------------|--------------------------------------|
| 4=2000                              | 4=1800                         | 4=1200                         | 1=2000                         | 1=2000                               | 1=2000                               |
| 5=1700                              | 5=1300                         | 5=800                          | 2=1900                         | 2=1500                               | 2=1900                               |
| 6=1300                              | 6=1000                         | 6=600                          | 3=1100                         | 3=800                                | 3=1100                               |
| 7=1000                              | 7=700                          | 7=500                          | 4=700                          | 4=500                                | 4=700                                |
| 10=500                              | 13=200                         | 8=300                          | 5=400                          | 5=300                                | 5=400                                |
| 15=200                              | 15=100                         | 9=200                          | 6=300                          | 6=200                                | 6=300                                |
|                                     |                                | 12=100                         | 8=100                          | 7=100                                | 8=100                                |

### Model 160 Specifications

|                                |   |
|--------------------------------|---|
| Power Input Requirements ..... | Power supplied by 24 VAC, 2.5 Amp<br>UL & CSA approved Wall Mount<br>Transformer Requires 115Vac @ .7 amps. |
| Weight of Booster Amp .....    | 1 lb  |
| Weight of Transformer .....    | 2 lb  |

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

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# 1 PRODUCT DESCRIPTION/PRE-INSTALLATION

## 1.1 BOOSTER AMPLIFIER

The Model 160 Booster Amplifier is designed to provide the capability to power additional Visual Pagers Model 920, 930, 940, 960 or 9600 Remote Displays. Each Model 160 can power up to 45 digits of any combination of Remote Displays depending on distance.

Additional Model 160 Boosters can be added to the system providing the capability to power a virtual limitless number of Remote Displays.

Installation consists of cabling either with RG59/U, 18 AWG Paired Wire or 16 AWG Paired Wire. Once installed, the Model 160 requires no maintenance or servicing.

There are (4) red LEDs located on the top of the Model 160 that indicate normal operating status. When first plugged in, the Booster will not indicate **Sys Sig In** until the Model 904 is plugged in and turned ON.

The **5VDC** LED indicates the Model 160 Booster is plugged into the power adaptor and connected to the AC, and the Keypad is also plugged in and turned ON. If this LED is not lit, first check the connecting cable from the Keypad and ensure that the Keypad is turned ON. Next, unplug the Booster and check the 2.5 Amp fuse.

If there is a shorted cable in the system, the **STATUS** LED will flash indicating the system needs to be turned OFF and the problem corrected. Once the short is corrected, the **STATUS** LED will remain steadily ON.

The **SYS SIG IN** and **SYS SIG OUT** LEDs indicate the Booster is receiving and transmitting the number from the Keypad to the Remote Displays.

## 1.2 PRE-INSTALLATION

Before permanent installation is made, we recommend that you first test your system and cables. This will be of great benefit in troubleshooting should you have any problems after installation. Carefully unpack each part of your system and record any shipping damage.

**FIRST**, place the Booster Amplifier next to a 115 VAC outlet close to the Model 904 Keypad. Plug both the Booster and Keypad in.

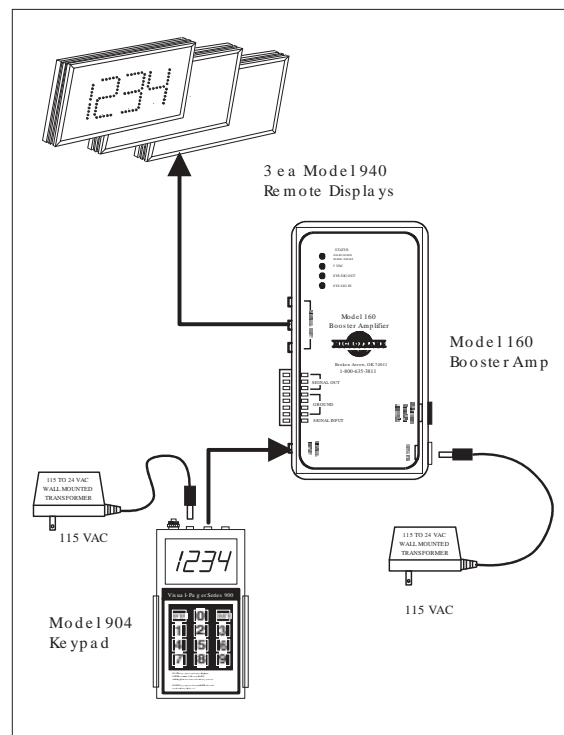
**SECOND**, connect a cable from the Signal Out connector of the Model 904 Keypad to the Input Connector on the Booster Amp. Turn on the Model 904 and observe that the POWER and

SIGNAL LEDs located on the front of the Model 160 are ON.

**THIRD**, connect a cable from the Output Connector on the Booster to the Model 920, 930, or 940 Remote Display.

**FOURTH**, enter a number into the Model 904 Keypad and see that it is displayed on the Remote Display.

If there are any problems, proceed to the Troubleshooting Chart on page 10. If there are no problems, you are ready to install your system.



## 2 INSTALLATION PROCEDURES

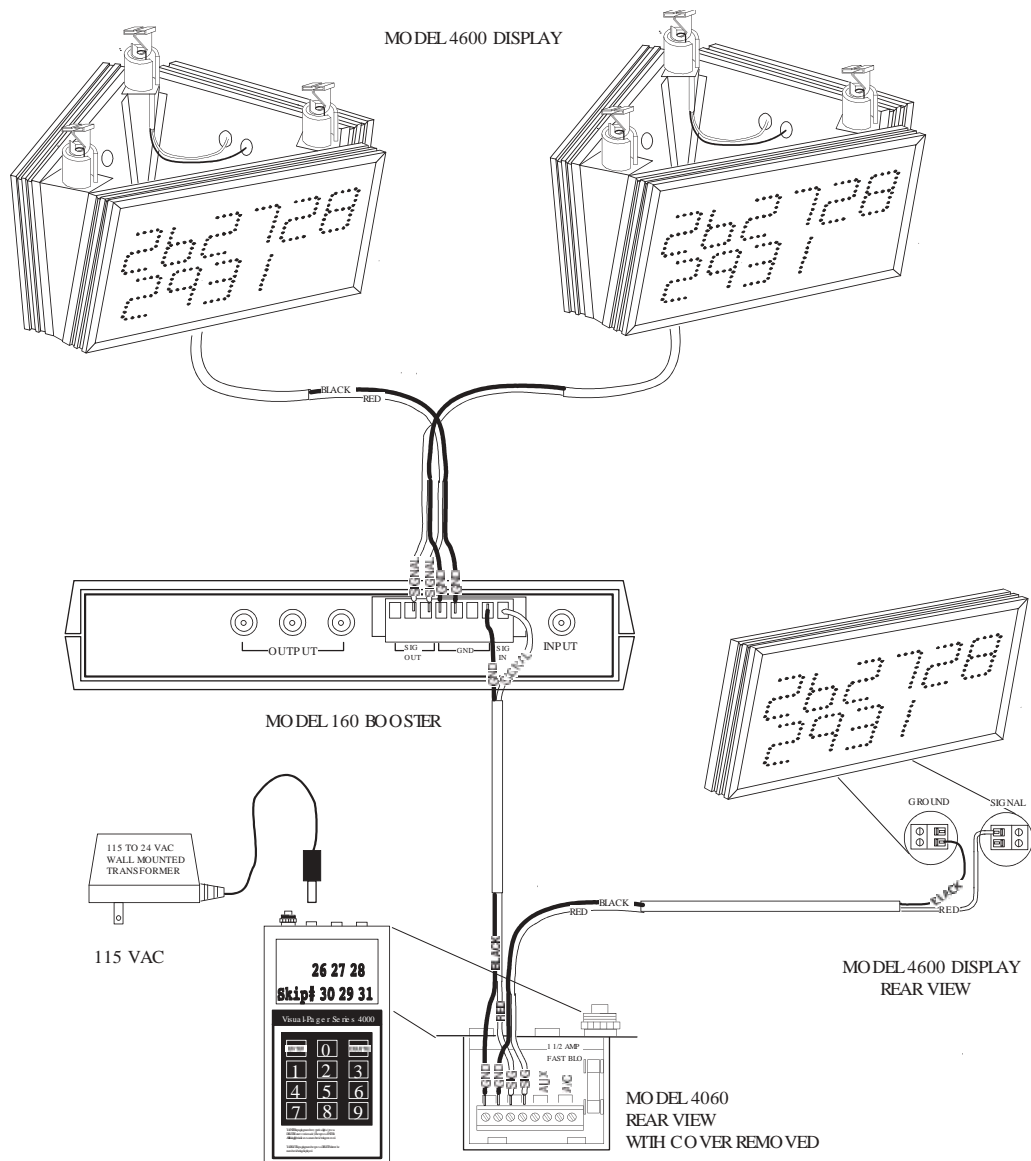
### 2.1 DETERMINE CONFIGURATION

The Model 160 Booster Amp will operate effectively at any point along the cable path connected to the Keypad. However, to maximize the number of Displays that the Model 160 Booster will drive, locate it within 200 feet of the Remote Displays it is driving. This may be next to the Keypad or at the other end of the cable connected to the Keypad circuit.

The Booster requires a connection to a 115 volt outlet with the 24vac adapter supplied.

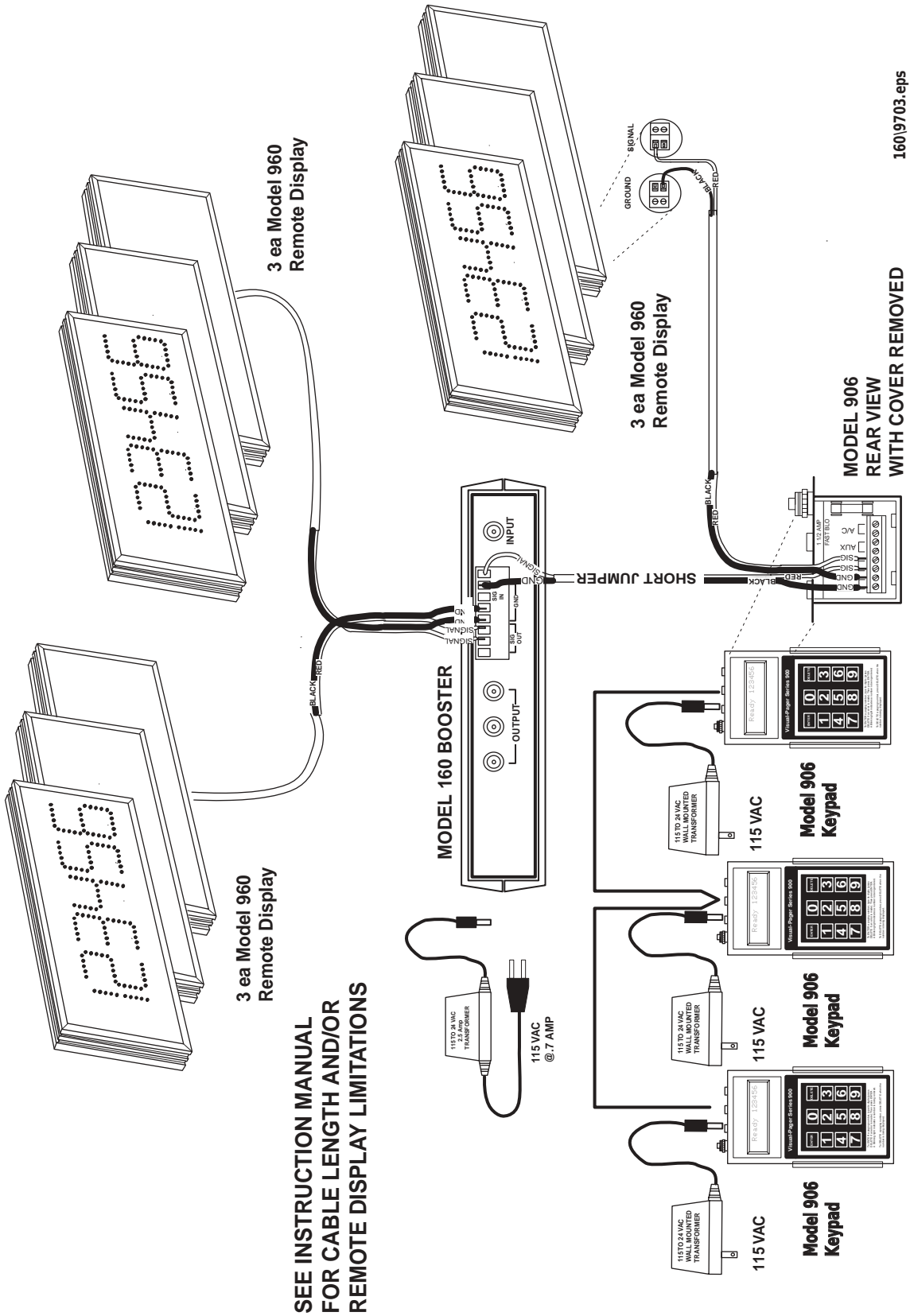
### 2.2 ROUTING THE CABLES

All cable routing should be as straight as possible with no severe bends that may cause kinking.



# INSTALLATION DIAGRAM

## TYPICAL INSTALLATION OF 960 SYSTEM WITH MODEL 160 BOOSTER AMPLIFIER



SEE INSTRUCTION MANUAL FOR CABLE LENGTH AND/OR REMOTE DISPLAY LIMITATIONS

160.9703.eps

## TROUBLESHOOTING CHART

| <b>SYMPTOM</b>   | <b>POSSIBLE CAUSE</b>   | <b>CURE</b>   |
|--|---|---|
| <b>Sys Sig In</b> light OFF                              | Model 904 Keypad adaptor is not connected to AC or is not turned ON.<br><br>Bad or no cable or cable connection from the Keypad to Booster. | Turn ON Model 904.<br><br>Check cable and connections.  |
| <b>5VDC</b> light OFF but <b>Sys Sig In</b> light is on. | Booster not connected to AC.<br><br>24v AC line fuse blown in Booster.<br><u>Note:</u> The power fuse is located on Rear Panel.             | Connect Booster to 24 Volt adaptor and plug into AC line.<br><br>Replace fuse with 2.5 Amp fuse.<br>Check all cabling for "shorts." |
| <b>Status</b> Light Blinks                               | Shorted output cable.<br>Shorted Remote Display.  | Repair or replace cables.<br>Return defective Display to factory.   |
| Any of the lights pulsate                                | Normal Operation.   | None required.  |

