

Microframe Corporation

Series 6200: Countdown Timer System



Operating Manual

A6200-7011





SERIES 6200

INSTALLATION & SPECIFICATION GUIDE

ITEM NO: A6200-7011

REVISION DATE: 05/02

Microframe Corporation
604 S. 12th Street
Broken Arrow, OK 74012

Tel: (918) 258-4839
Toll Free: 1-800-635-3811
Website: www.microframecorp.com
E-mail: support@microframecorp.com

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.

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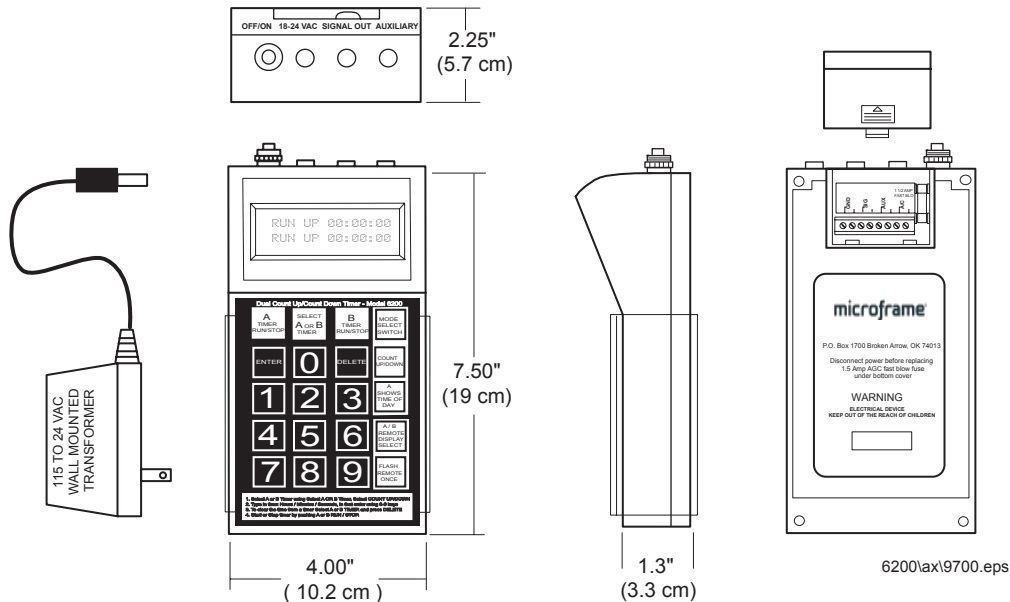
MODEL 6200 TIMER KEYPAD SPECS

Features

The Model 6200 Keypad is designed to operate with the Model 920, 930, 940, 960 and 9620 Displays. Each Display has 5.5 inch tall digits viewable up to 125 feet, with the exception of the 9620 featuring 2.5 inch tall digits that are viewable up to 75 feet. Each Display is encased in an aluminum extruded cabinet.



Microframe® Model 6200 Keypad



Model 6200 Keypad Specifications

Local Keypad Display	Built-in LCD readout
Remote Display Options.....	Model 920 (2-Digit), Model 930 (3-Digit), Model 940 (4-Digit), Model 960 (6-Digit), and Model 9620 (dual 6-Digit)
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
Weight75 lb (.4 kg) with transformer 2.25 lb (1.0 kg)

Support and Sales

800-635-3811

Microframe® Corporation
www.microframecorp.com

P.O. Box 1700
Broken Arrow, OK 74013

microframe® MODEL 920, 930 and 940 SPECIFICATIONS Remote Displays

Features

The Model 920, 930 and 940 Displays are designed to work with the 6200 Timer Keypad. Each Display has 5.5 inch tall digits viewable up to 125 feet and is encased in an aluminum extruded cabinet.

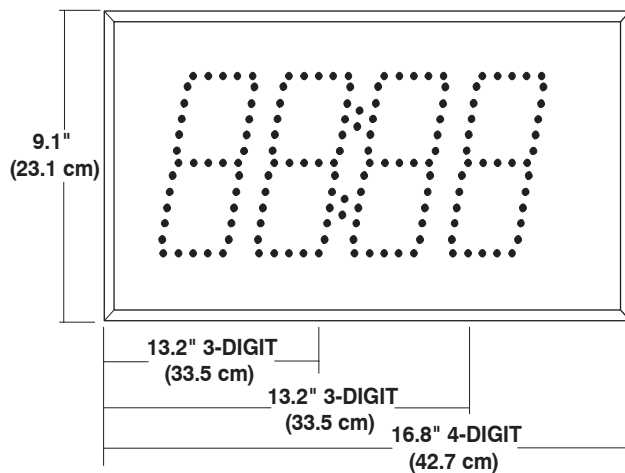
Operation

The Remote Display is designed to operate with the Model 904 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.

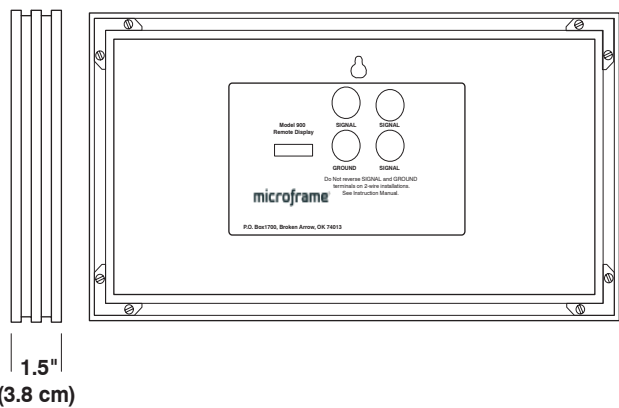


Microframe® Model 940 Display

Front View



Rear View



9X01AX19700.ai

Model 920, 930 and 940 Specifications

Remote DisplayWall mount 5.5" LED Display
Maximum Distance from Keypad2,000 Feet = 1 Display 300 Feet = Full Load of Displays Using 16 AWG Paired Wire
Power Input RequirementsPower Supplied by Keypad
Maximum Number of Displays without Booster AmpUp to twelve 2-Digit; nine 3-Digit and seven 4-Digit Displays
Character Height5.5 inch (14 cm)
Character Viewing Distance150 feet (45 meters)
Weight2-Digit 2.5 Lbs (1.1 kg); 3-Digit, 3 Lbs (1.4 kg); 4-Digit, 3.5 Lbs (1.6 kg)

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MODEL 960 SPECIFICATIONS

Remote Display

Features

The Model 960 Display is designed to work with the 6200 Timer Keypad. The Display has 5.5 inch tall digits viewable up to 125 feet and is encased in an aluminum extruded cabinet.

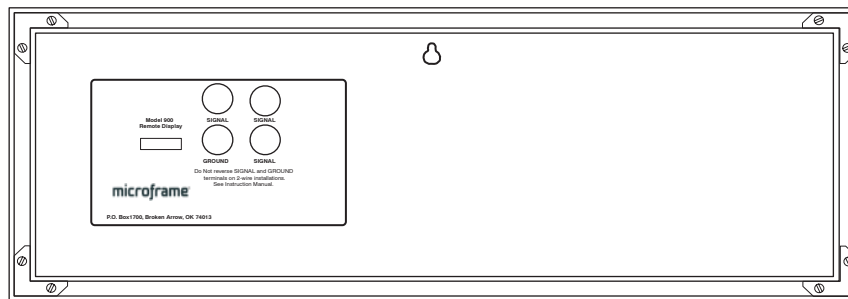
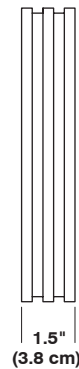
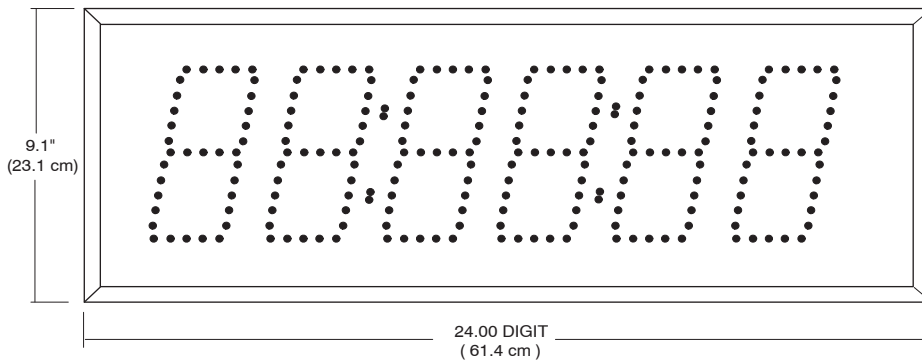
Operation

The 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. This Display is used to show hours, minutes and seconds from both timers on the 6200 Keypad.



Microframe® Model 960 Display

Model 960 Remote Display



960\ax\9700.ai

Model 960 Specifications

Remote Display	Wall mount 5.5" LED Display
Maximum Distance From Keypad	2,000 Feet = 1 Display
	100 Feet = Full Load of Displays Using 16 AWG Paired Wire
Power Input Requirements	Power supplied by Keypad
Maximum Number of Displays without a Booster Amp.....	Up to four 6-Digit Displays
Character Height	5.5 inch (14 cm)
Character Viewing Distance	150 feet (46 meters)
Weight	5.0 Pounds

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MODEL 9620 SPECIFICATIONS

Remote Display

Features

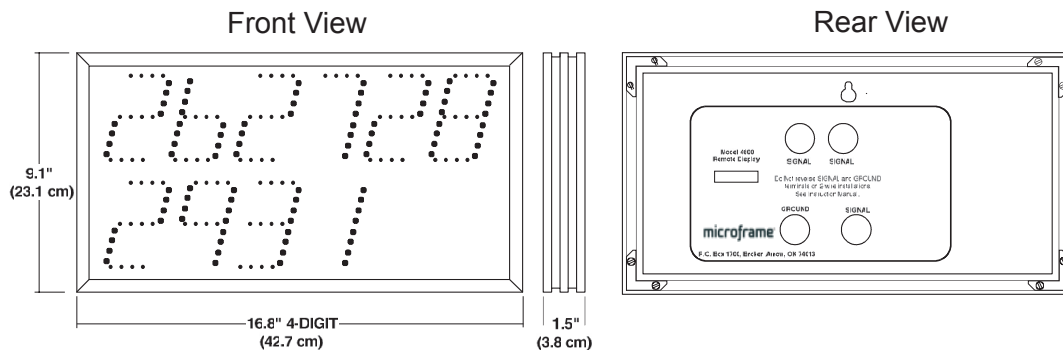
The Model 9620 Display is designed to work with the 6200 Timer Keypad. The Display has 2.5 inch tall digits viewable up to 75 feet and is encased in an aluminum extruded cabinet.

Operation

The Model 9620 Remote Display is designed to operate with the Microframe Model 6200 Keypad. The signal and power is received from a single cable connected to the Model 6200 Keypad. Up to four Displays may be connected directly to the Model 6200 Keypad. 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. This Display can be used to show hours, minutes and seconds from both timers on the 6200 Keypad.



Microframe® Model 9620 Display



Model 9620 Specifications

Remote Display	Wall mount 2.5" LED Display
Maximum Distance From Keypad	2,000 Feet = 1 Display
	200 Feet = Full Load of Displays Using 16 AWG Paired Wire
Power Input Requirements	Power supplied by Keypad
Maximum Number of Displays without a Booster Amp	Up to four 6-Digit Displays
Character Height	5.5 inch (14 cm)
Character Viewing Distance	75 feet (46 meters)
Weight	3.5 Pounds

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MODEL 941 and 942 SPECIFICATIONS Mini Display

Features

The Model 941 and 942 Mini Display features 1-inch tall digits viewable from up to 30 feet. The Model 942 Display is double sided and can be viewed from either side.

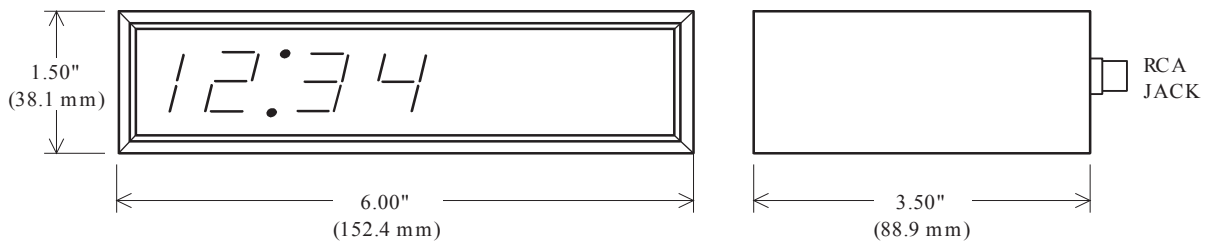
Operation

The Model 941 Desktop Remote Display is designed to operate with the Microframe Model 6200 Timer or Model 904 Keypad to provide a Remote Display of data entered into these products. The Model 941 Display receives its power and signal from a single cable connected to the Keypad and is turned on or off with the Keypad power switch.



Microframe® Model 941 and 942 Display

Model 941 and 942 Mini Display



Model 941 and 942 Specifications

Remote Display	Desktop .8 Inch (20.3mm) LED Display
Maximum Distance from Keypad.....	2,000 feet = 1 Display 300 feet = Full load of 8 Displays
Power Input Requirements	Power Supplied by Keypad
Maximum Number of Digits	Four Digits
Character Height	1 Inch (20.3 mm)
Character Viewing Distance	30 Feet (6 meters)
Case	ABS Plastic
Weight	1 lb (.45 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 problems after installing the system.

1.1 TEST KEYPAD

Connect the power supply to the Model 6200 Keypad at the **18-24 VAC** connector. Turn power **ON** and observe that the backlight on the display of the Keypad lights up and that both Timers A and B are operational. If the timers will run, then the Keypad works.

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 **Timer Connection Diagram**). Make sure the loose wires on the other end are not touching together, then turn power "**ON**." If the message `SHORT1` or `SHORT2` appears in the local display, there is a short in the cable, and it needs to be repaired before proceeding.

1.3 TEST KEYPAD, CABLE, DISPLAYS

Turn power **OFF**. Connect the other end of the cable to the Remote Display and verify that it works by turning the power **ON**. Observe that the time is shown on the Remote Display. If the unit says `SHORT 1`, `2`, or `3`, then there is a problem with the system and you should call for technical support. If the system flashes or will not respond:

1. The 6200 Keypad needs to be programmed to drive the specified Remote Display (see **Programming Instructions**); or
2. The cable is faulty (see **Troubleshooting**).

2 INSTALLATION PROCEDURES

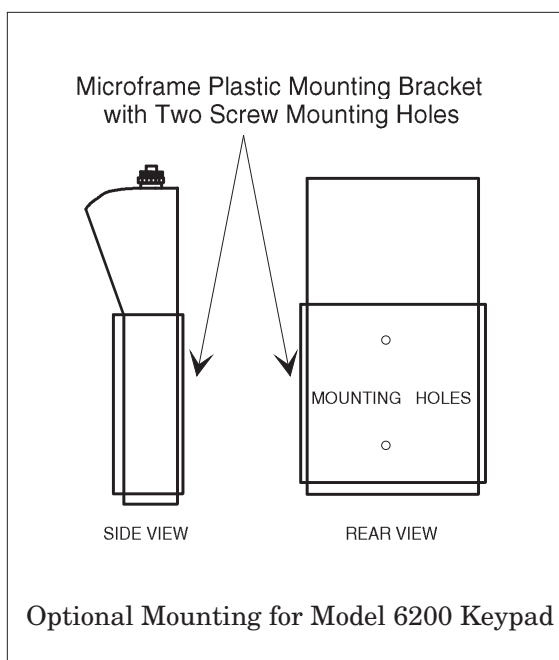
2.1 KEYPAD INSTALLATION

The Model 6200 Keypad may be mounted on a table top or on the wall. Locate the Keypad so that the cord from the wall-mount transformer 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.

Place the Keypad in the enclosed plastic wall mounting bracket. Place the mounting bracket at the desired mounting location and mark the position. Slide the Keypad up out of the mounting bracket and attach bracket using screws supplied. Once screws are screwed in flush with back of bracket, slide the Keypad into bracket. The Keypad may easily be removed if necessary.

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 turning the unit on and observing that the backlight on the Keypad lights up and shows the contents of both timers. This verifies that the system is working. If the unit does not work, refer to the **Troubleshooting** section. Now turn power **OFF**.

Only the Keypad needs an AC outlet for the wall mount transformer which will power both the Model 6200 Timer Keypad and the Remote Display(s).



2.2 DISPLAY INSTALLATION

In selecting a Remote Display location, remember that the Remote Display will be most visible when mounted 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. Next, punch one hole in the wall 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**. This will allow the longest distance and the most reliable operation.

The Microframe Timer uses an 18AWG wire pair. Cable supplied by Microframe has the ends prepared ready to connect to the Keypad and Remote Display (see **Timer Connection Diagram**).

If you have soldered your own RCA 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. The backlight of the LCD should light and the contents of both Timers A and B should be displayed. If the unit says **SHORT1** or **SHORT2**, then the cable is shorted and must be repaired.

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

If you turn your Keypad **ON** and the timer backlight and contents of the timers are not visible, you may have blown a fuse. Turn power **OFF** and remove transformer from wall outlet.

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

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**. The contents of the timer which is selected using "**SELECT A OR B TIMER**" should show on the Remote Display. If nothing is shown on the Remote Display:

1. The 6200 needs to be programmed to drive the specific Display (see **Programming Instructions**); or
2. The signal cable is *open*. (This means the cable has not made connection or it has a broken wire.) If Error Code **SHORT3** appears, the Model 6200 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 the 30-Day Trial Period.

3 OPERATION

The Keypad Display has two lines: Line 1 for **A-Timer** and line 2 for **B-Timer**.

3.1 QUICK INSTRUCTIONS

1. Connect power and turn Timer unit **ON**. Select destination: **A-Timer** or **B-Timer**, using "**SELECT A or B TIMER**" button. Press button once to select B or press again to select A. The arrow on the Keypad display will point to the timer which is selected.

2. Type in time in hours/minutes/seconds in that order using 0-9 keys. You must always enter hours and minutes first even if they are zero.

00 01 20 = 0 hr. 1 min. 20 sec.

3. Start or stop each timer by pushing the "**A-TIMER RUN/STOP**" or "**B-TIMER RUN/STOP**" button. The selected timer will start or stop at the exact instant you push the button. The **RUN** message will appear on the line of the timer that is running.

4. Select which timer you wish to display on the Remote Display using the "**A/B REMOTE DISPLAY SELECT**" button. The box will appear on the Keypad Display next to the timer which is being shown on the Remote Display.

5. To clear a timer, select that timer in the local display using "**SELECT A OR B TIMER**," then push "**DELETE**." The timer will clear to **00 00 00**.

3.2 "SELECT A or B TIMER" BUTTON

The timer that is currently being edited by the user is pointed to by an arrow. If the user presses the "**SELECT A or B TIMER**," then the arrow will move to the other timer. (**NOTE:** If you are currently editing the contents of a timer, then the arrow will not move. You must finish editing the current timer.)

3.3 "A/B REMOTE DISPLAY SELECT" BUTTON

The timer that is currently being displayed on the Remote Display has a **BOX** on its line. If you are in the 4600 mode then this box will toggle first to A, then to B, and then to both A and B. This process will repeat each time you

press the "**A/B REMOTE DISPLAY SELECT**." If you are in the 920/30/40/60 mode, then the box will be either on A or B but not on both. This is due to the fact that the 920/30/40/60 Displays can only show one timer at a time.

3.4 "A TIMER RUN/STOP" and "B TIMER RUN/STOP" BUTTONS

Any time a timer is running, the **RUN** message will appear on the line of the running timer. Pressing the "**RUN/STOP**" button for that timer will start or stop the timer depending on its current status.

The **RUN** message will disappear when the timer is stopped and immediately reappear when the start button is pushed. (**NOTE:** Both timers will immediately stop when they reach zero unless otherwise programmed as discussed in the "mode" sections.)

For the following instructions, use this nomenclature to distinguish between buttons, functions, messages, and things:

1. **"ENTER"** = Button on Keypad or Label

[Indicated by All Caps, Boldface and Quotes]

2. **ON** = Function like **ON** or **OFF**

[Indicated by All Caps and Boldface]

3. **UF** = Message on Screen

[Indicated by Dot Matrix Font]

4. **A-Timer** = Thing or Noun

[Indicated by Boldface and Title Case]

3.5 "FLASH REMOTE ONCE" BUTTON

The "**FLASH REMOTE ONCE**" only works if you are in the 9X0 (920/30/40/60 Display) mode. If you are in this mode, then the Remote Display will flash the time that it is displaying once each time you push the flash button.

3.6 "COUNT UP/DOWN" BUTTON

Each Keypad Timer displays the message **UF** or **DN** depending on its current status. To change the direction of count for a timer, simply use the "**SELECT A or B TIMER**" button to select which timer you want to operate on and then push the "**COUNT UP/DOWN**" button to toggle the count direction for this timer.

3.7 "A SHOWS TIME OF DAY" BUTTON

This button will load the **A-Timer** with the internal time of day. It will destroy whatever was in **A-Timer** and make it read the time of day. The **TIME** message will appear on the line next to **A-Timer** when in time mode. In this mode you cannot start/stop, up/dn or edit the contents of **A-Timer**; it is simply showing the time of day. To set this time you must do the **Set Timer** procedure in the mode area. To get out of **Time** mode, simply push the "**ASHOWS TIME OF DAY**" button again and **A-Timer** will return to normal and be reset to zero.

3.8 "MODE SELECT SWITCH" BUTTON

The "**MODE SELECT SWITCH**" allows the user to select the various special functions of the Timer Unit. There are four "areas" in the "**MODE SELECT SWITCH**." Each time the "**MODE SELECT SWITCH**" is pushed the user is advanced to the next area until all areas have been viewed. The user then exits to normal operation.

The four mode areas are as follows:

1. Set Time
2. A-Timer starts B-Timer
3. Reload Time
4. Auto Restart

3.8a SET TIME

To set the time, simply push the "**MODE SELECT SWITCH**" once. This will show the current time of day. If you wish to change this time, press "**ENTER**." The first digit of the hours position will then begin to blink. Enter in all of the digits of the time and this will be stored as the new time of day. Upon entering the last digit of the seconds position, the timer will return to normal operation. The entered time is stored in the internal backup clock. This time-of-day clock continues to work even when the unit is disconnected from power. (**NOTE:** If you enter a number that is larger than 12 in the hours position, then 12 will be stored to the hour counter.)

3.8b A STARTS B

When this function is enabled if **A-Timer** is counting down and **B-Timer** is stopped, then when **A-Timer** reaches zero **B-Timer** will begin to run. To disable or enable this function, follow these steps: First, press the mode button twice.

The message below the **A** timer starts **B** will indicate whether this function is enabled or disabled. To change the status, press enter. The message will then change to **Enabled** or **Disabled**. When the desired selection is reached, continue pushing the mode button until you are out of the mode selection.

3.8c RELOAD TIME

The number stored in **RELOAD TIME** is loaded into **A-Timer** when **A-Timer** counts down to zero. **A-Timer** will then stop counting or continue depending on **AUTO RESTART** status. To change the **RELOAD TIME**, press the "**MODE SELECT SWITCH**" 3 times. To make a change to the time, press "**ENTER**." The hours position of the **RELOAD TIME** will then begin to blink. Using the numeric Keypad, you may now enter the desired time for **RELOAD TIME**. When the last digit of the seconds position is entered, you will be returned to the normal operating mode.

3.8 d AUTO RESTART

This function works in conjunction with the **RELOAD TIME**. When **A-Timer** is counting down and reaches zero, the **RELOAD TIME** is loaded into **A-Timer**. If **AUTO RESTART** is enabled then **A-Timer** will continue to count down from the **RELOAD TIME**. If **AUTO RESTART** is disabled then **A-Timer** will load the **RELOAD TIME** and stop. Pushing "**RUN**" will then cause the timer to continue to count down from the **RELOAD TIME**. To enable or disable the **AUTO RESTART** function, push the "**MODE SELECT SWITCH**" 4 times. The screen should display **AUTO RESTART**, pressing "**ENTER**" will toggle the status from **ENABLE** to **DISABLE** and back again. When you are happy with your selection, pressing the mode button once will return you to normal operation.

4 PROGRAMMING FOR 940, 960 OR 9620

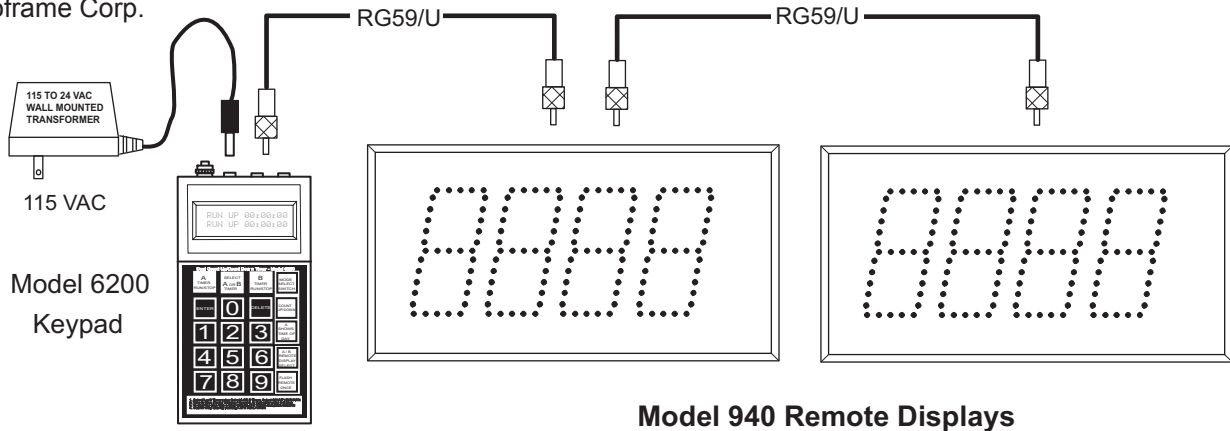
The 6200 Timer Keypad is capable of driving either Model 800, 900, 960 or 4600 Series Displays. These Displays, however, cannot be driven at the same time. If for some reason your unit is not working properly, it could be because the 6200 Timer Keypad thinks that it is driving one type of Display when it is really driving another. To check or change your Display mode setting, follow these instructions.

1. Turn the 6200 **OFF**.
2. While holding down "0" (zero), turn the unit back **ON**.
3. Press the "**1**" button and the Display will show PROGRAM AREA 1.
4. Press the "**3**" button and the Display will show the current Display setting.
5. The current status of this setting will be shown at the bottom right-hand corner of the screen.
 - 0 = 800 Series (2-, 3-, or 4-Digit)
 - 1 = 900 Series (2-, 3-, or 4-Digit)
 - 2 = 960 Series (6-Digit)
 - 3 = 4000 Series
6. To leave this status press "**DELETE**."
7. To change this status, press the number on the Keypad corresponding to the type Display being used. Press "**ENTER**" to return to the main program area, or press "**DELETE**" to return to normal operation.

TIMER CONNECTION DIAGRAM

Using RG59/U Cable

The Timer System is very easy to install if connected as shown using cable that is furnished, pre-cut and assembled by Microframe Corp.

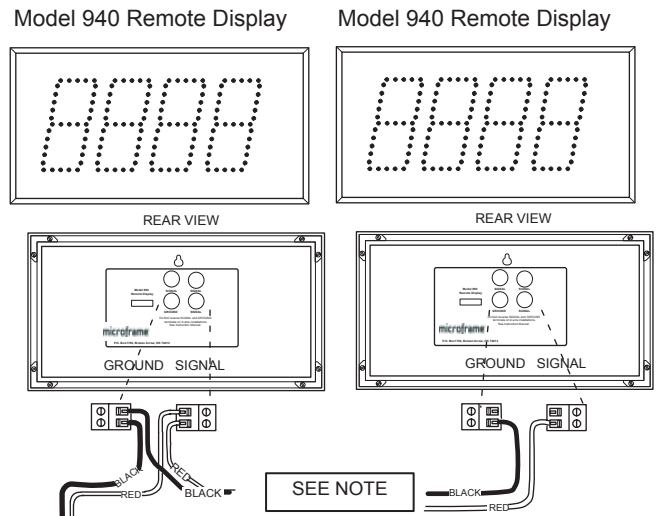


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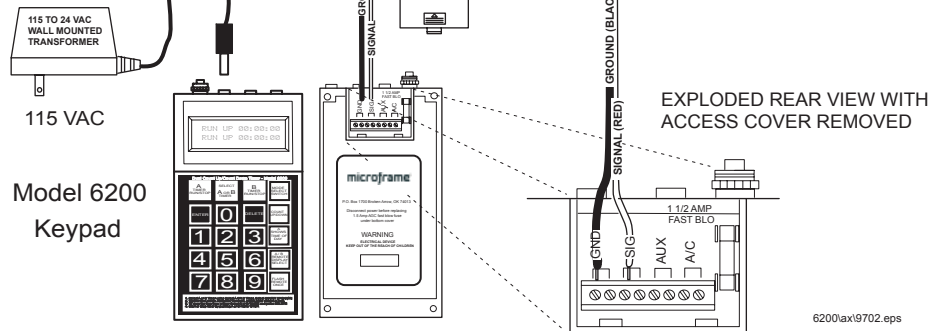
Using 16 or 18 AWG Paired Wire

The Timer System may also 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 6200 Keypad.

NOTE: THE MODEL 920 SIGNAL AND GROUND CONNECTIONS ARE REVERSED FROM THE MODELS 930 AND 940.



One power supply plugged into a standard 115 VAC outlet next to the Keypad powers the entire system.



6200\ax19702.eps

DETAILED TIMER CONNECTION INSTRUCTIONS FOR 16/18 AWG WIRES

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:

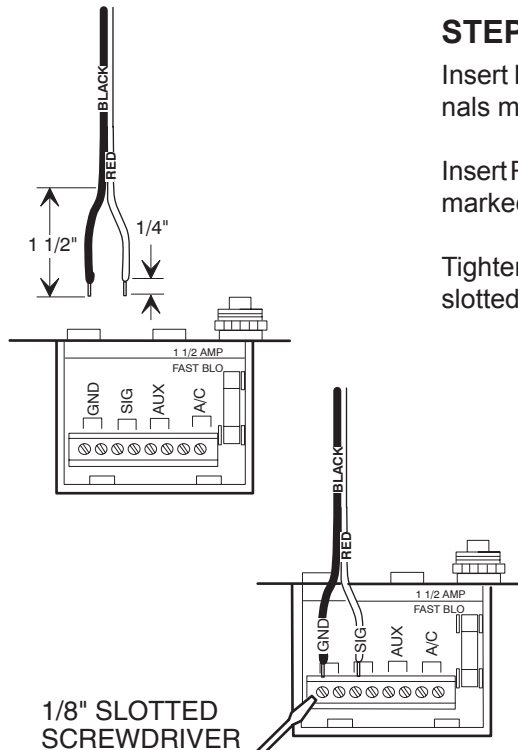
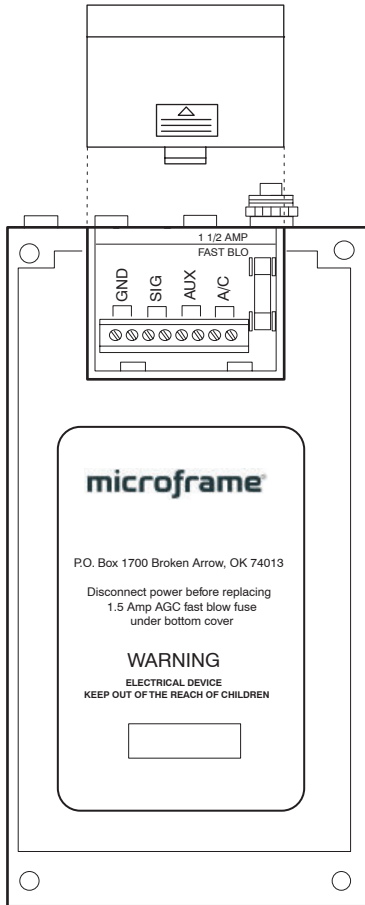
Insert Black Wire in one of the terminals marked GND.

Insert Red Wire in one of the terminals marked SIG.

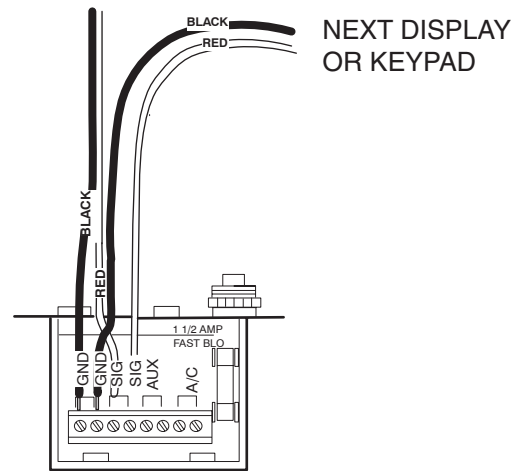
Tighten terminal screws using a 1/8" slotted screwdriver.

STEP 4:

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

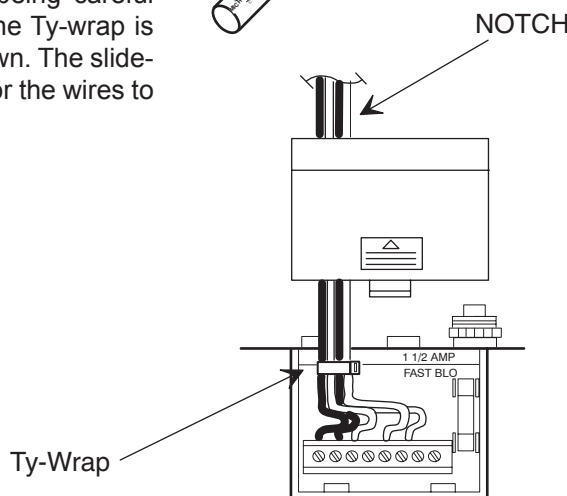


DISPLAY



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.



MAXIMUM CABLE LENGTH TABLE

The following chart shows the maximum number of 2-, 3-, 4- or 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 6200 Keypad. For example, when using 18 AWG wire you can install a maximum of four Model 940 (4-digit) Remote Displays up to 1,000 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 940 (4-digit) Remote Displays up to 1,600 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 OR 16 AWG WIRE

Model 920 2-Digit Displays		
# 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 930 3-Digit Displays		
# of Displays	Distance	
	18 AWG	16 AWG
1	2000	2000
2	2000	2000
3	2000	2000
4	1500	2000
5	1000	1600
6	700	1100
7	500	800
8	300	500
9	100	200

Model 940 4-Digit Displays		
# of Displays	Distance	
	18 AWG	16 AWG
1	2000	2000
2	2000	2000
3	1600	2000
4	1000	1600
5	600	1000
6	400	700
7	200	400

Model 4600 Dual 6-Digit Displays		
# of Displays	Distance	
	18 AWG	16 AWG
1	2000	2000
2	1300	2000
3	600	900
4	200	400

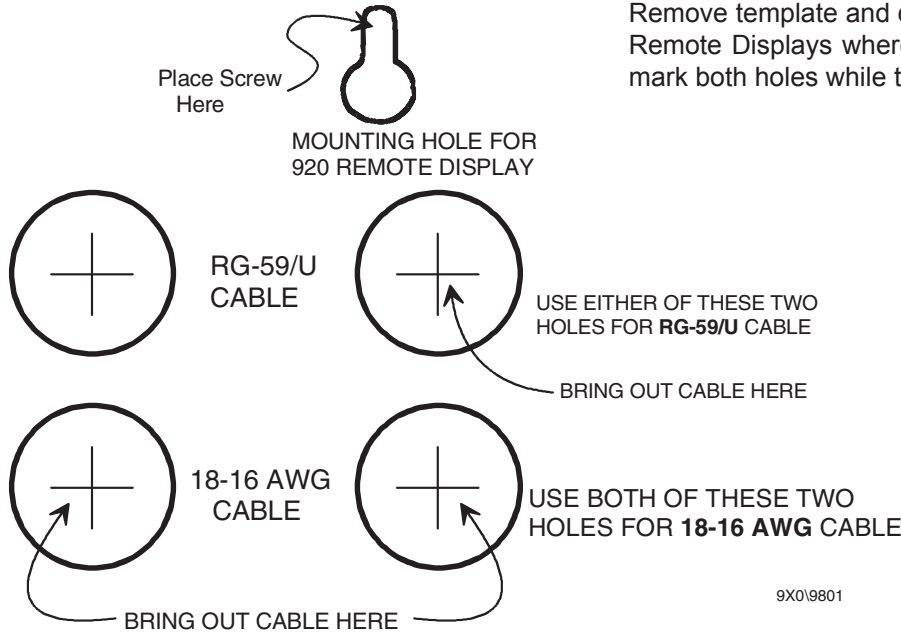
Model 960 6-Digit Displays		
# of Displays	Distance	
	18 AWG	16 AWG
1	2000	2000
2	2000	2000
3	1300	2000
4	700	1200
5	200	300

920 REMOTE DISPLAY MOUNTING TEMPLATE

Two-Digit 920

Remote Display Template

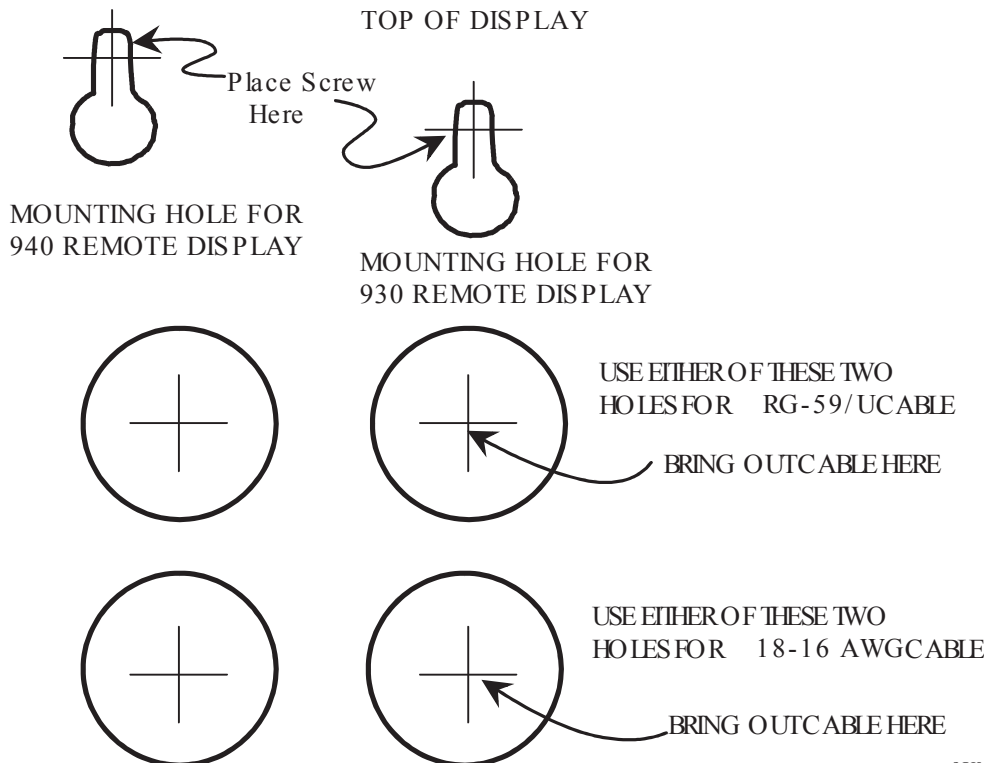
First, make a copy of this template. Then place template on wall with words facing toward you and start screw in the center of the screw hole. Leave screw head out 1/4" from wall surface. Locate cable hole(s) by marking the wall through the template for the type of cable being used. Remove template and 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.



930 & 940 DISPLAY MOUNTING TEMPLATE

Three-Digit 930 and Four-Digit 940 Remote Display Template

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



960 DISPLAY MOUNTING TEMPLATE

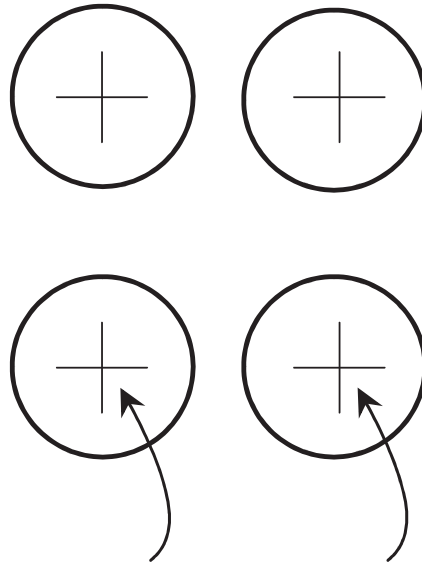
TOP OF DISPLAY



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

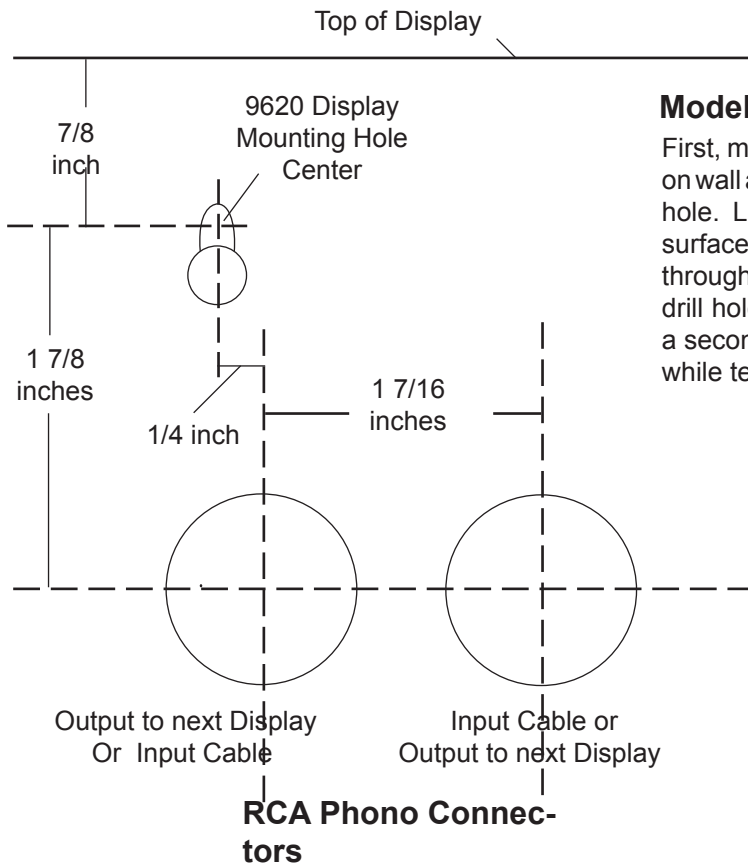
USE EITHER OF THESE TWO
HOLES FOR **18-16 AWG** CABLE
BRING OUT CABLE HERE

9X019601

MODEL 960 TEMPLATE

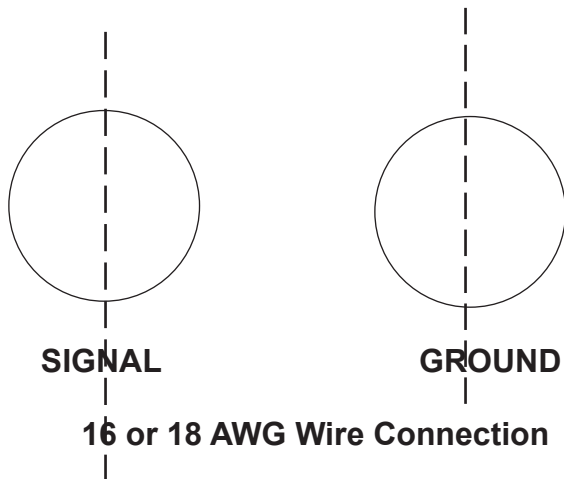
First, make a copy of this template. Then place on wall and start screw in the center of the screw hole. Leave screw head out 1/4 inch from wall surface. Locate cable hole by marking the wall through the template. Remove template and drill hole in wall for cable. For Displays where a second cable is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

4600 DISPLAY MOUNTING TEMPLATE



Model 4600 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.



EXPLANATION OF ERROR CODES

There are four error conditions that will cause an Error Code to be illuminated in the Model 6200 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
Short 1	The cable is shorted within 100 feet of the Model 6200 keypad.
Short 2	The cable is shorted greater than 100 feet from the Keypad, probably at the Remote Display.
Short 3	The output transistor is blown and there are no numbers shown on the Remote Displays. DO NOT ATTEMPT TO CORRECT THIS PROBLEM. Return the Model 6200 Keypad to the factory.
Eprom	There is a programming error. Call for technical support on the Model 6200 Keypad.

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 6200 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. Keypad is in wrong display mode.	Check signal cable connections or move Remote Display close to the Model 6200 Keypad and try with a short cable to prove whether the problem is in the units or in the cable. See Programming Instructions .
Keypad works but Remote Display does not work, and Keypad shows Short 3 .	Output transistor is blown.	Return Model 6200 Timer System to factory.
Model 6200 Timer works until the cable is plugged in, then it displays Short 1 or Short 2 .	Shorted cable. Short 1 —short within 100 ft. of Keypad. Short 2 —short over 100 ft. from Keypad.	Check connectors for shorts. Repair or replace cable.
Keypad display shows Eprom .	Programming error.	Reset to Factory Defaults (see Programming Instructions).



Microframe Corporation
604 S. 12th Street
Broken Arrow, OK 74012

Tel: (918) 258-4839
Toll Free: 1-800-635-3811
Website: www.microframecorp.com
E-mail: support@microframecorp.com