

**microframe®**

**SERIES 3600**

**INSTALLATION & SPECIFICATION GUIDE**

**ITEM NO: A3600-7011**  
**REVISION DATE: 11/09**



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A3600-7011



### 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. MultiPage transmitters have a warranty coverage of (2) years. 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 solve the problem by phone. If it becomes necessary to return your unit to the factory, please observe the following:

1. Call our Customer Service department to receive an RMA (Return Merchandise Authorization) number.
2. Place unit in a sturdy box with sufficient packing material.
3. If requested, include the power adapter. It is not necessary to return the cable and connectors unless they are the problem.
4. Return the product insured, prepaid, and a tracking number is recommended. We are not responsible for shipping damages or 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 e-mailing 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. Doing so will void the warranty on the product.



### Warning

All power adapters, 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 anyone, 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 effect its safety or effectiveness.

### Disclaimer

We are constantly striving to improve our products. Specifications are subject to change without notice.

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## Transmitter Installation

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 during installation.

### **STEP 1: CONNECT THE ANTENNA**



**Caution: Transmitting without the antenna can damage the transmitter. Ensure that the antenna is connected before powering the unit.**

Connect the 90 degree antenna to the BNC connector located at the side of the transmitter. Slide the plastic cover over the connector, engaging the two lugs into the corresponding recesses in the side of the case. This will maintain the antenna in an upright position, which is important for optimizing the range of the transmitter (See Figure 1).

Figure 1: Connecting the Antenna and Locking Cover

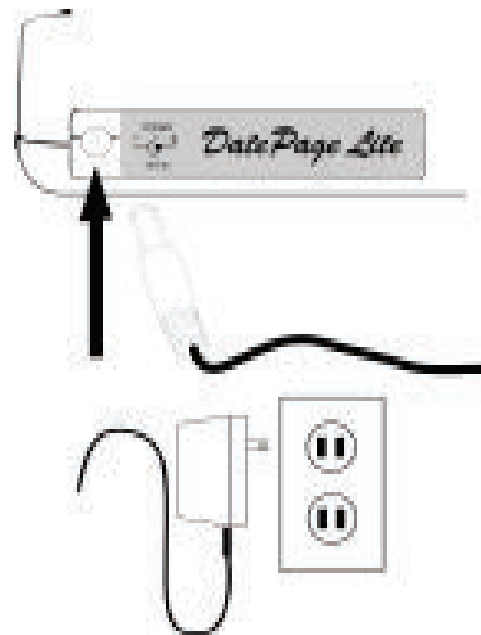
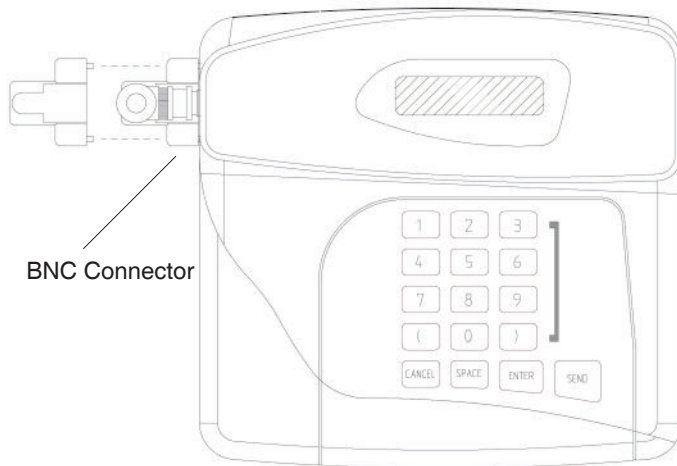


Figure 2: Connecting the Power Adapter

### **STEP 2: CONNECT THE POWER ADAPTER**

Connect the supplied AC power adapter (see Figure 2). The transmitter will automatically come on.

When the transmitter is first powered up, the system will display the following screen for a few seconds:



Followed by:



The transmitter is now ready for operation.



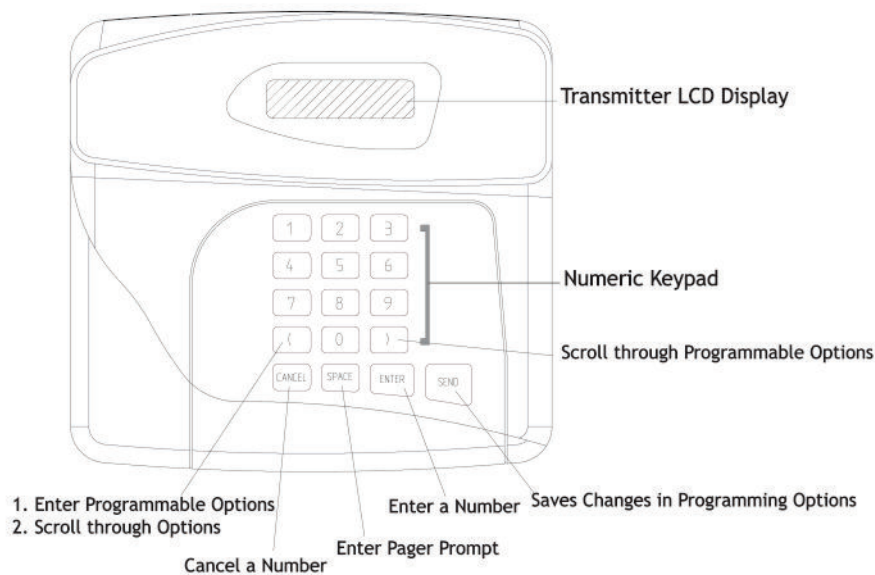
**IMPORTANT NOTE:**

**Use only the power adapter included with your system! The use of unapproved power adapters will invalidate all warranty and service. We also recommend using a surge suppressor for protection. Power surges are not covered under the warranty.**

**1.1 PRECAUTIONS**

Avoid placing the transmitter in the immediate vicinity of telephones, exchanges, or computer equipment. A few feet can make a great difference in avoiding interference from the radio frequency generated by the transmitter. The performance of your system will be effected by: foil backed wallboard, metal mesh, wire-reinforced glass, metal sheeting, large mirrors, suspended ceilings, elevator shafts, etc. These can all reflect and thereby reduce the signaling capability of the transmitter. Some forethought prior to installation, coupled with a few tests, will avoid most problems.

## Transmitter Operation



**1.1 BASIC OPERATION**

The Model 3610 Transmitter has its own built-in display so that you can view the numbers that are being entered and shown on the wireless UHF display. Numbers that are entered will be added to both the transmitter and the wireless UHF display. Once the number capacity has been reached, the transmitter will not accept additional numbers.

## **1.1 Behavior**

The transmitter can be configured for use with the 2-digit (3620 mode) or 3-digit (3430 mode) displays. The operations described below are for the 2-digit mode, (3-digit operation is similar).

### **1.2 Automatic Entry**

When number buttons 00 to 99 are pressed, they are automatically entered into the wireless UHF display and also displayed on the Model 3610 Transmitter. After you push the first number, such as “**1**,” the transmitter display shows “Enter: 1” (see Figure 1). After you enter the second number “**2**,” the transmitter display shows “Enter: 12” for one second and disappears. The number “12” will then appear on the wireless UHF display.



Figure 1: *Entering a Number*

### **1.3 Selective Delete**

To selectively delete a number, push “**CANCEL**” then the number you wish to delete from the wireless UHF display. After you push the first number, such as “**1**,” the transmitter display shows “Cancel: 1.” After you enter the second number “**2**,” the transmitter display shows “Cancel: 12” for one second and disappears (see Figure 2). The number “12” will be removed from the transmitter screen and the wireless UHF display.



Figure 2: *Deleting a Number*

### **1.4 Quick Delete**

The 3610 Transmitter can be programmed to be a two-key quick delete station (for programming instructions, see Appendix A). When in this mode, the number is deleted by pressing only two numeric keys. This is useful in locations where one transmitter is primarily an entry station and a second transmitter is primarily a delete station.

### **1.5 Automatic Delete**

The transmitter will automatically delete each number after a programmable display time (for programming instructions, see Appendix A). If the transmitter is unplugged, the Wireless UHF display will eventually clear itself using its internal auto-delete timer.

### **1.6 Configuration**

The Model 3610 Transmitter has several programmable options. To learn more about these options, see Appendix A.

# Wireless UHF Display Installation

## 3.1 INSTALLATION

**Step 1: With power adaptor unplugged, wire in the power adapter.** To do this, simply place one wire from the adapter under one of the screwdown terminals and the other wire under the other screwdown terminal as shown (Figure 1).



Figure 1: *Wire in the power adapter.*

**Step 2: Attach the antenna (Figure 2).** At this point, plug in the power adapter and check the display for proper operation.



Figure 2: *Attach the antenna.*

**Step 3: Hang the display (Figure 3).** The display can be hung on the wall like a picture frame on a nail or screw. Simply secure a nail or screw into the wall and line up the “keyhole” in the back of the display to mount on the wall.



Figure 3: *Hang the display.*

### Optional Installation

For aesthetic reasons, you may wish to run the wire from the power adapter to the display concealed in the wall. A person skilled in wiring should complete this task. The display uses low voltage (24-volt) wiring and generally does not require conduit.

## Wireless UHF Display Operation

### **3.2 OPERATION**

If you purchased this display for use with a Model 3610 Transmitter, you should be able to simply plug in the display and then enter and delete numbers as specified in the “Transmitter Operation” section.

#### **Step 1: Entering a Number**

Enter the 2-digit number in the transmitter. The number will automatically appear on the Model 3610 Transmitter.

**NOTE: If the display has reached its number capacity (20-40 numbers, depending on the display), it will not accept new numbers.**

#### **Step 2: Deleting a Number**

Press “CANCEL,” then enter the 2-digit number to delete. The number will be deleted from the Model 3610 Transmitter.

### **3.3 DISPLAY OPTIONS**

#### **Auto Delete Setting**

The **display** determines a number’s lifespan based on the auto-delete time. **NOTE: If you have a Model 3610 Transmitter, use the transmitter’s auto-delete rather than the display’s auto-delete time.** This option allows the display to clear itself automatically if the transmitter is unplugged.

#### **Blink Alert Settings**

By default, each number will automatically start to blink after a predetermined display time. There are two types of blinks: slow blink and fast blink. See Appendix B for programming details.

**Application** - The blink alerts are designed to convey a sense of urgency and to set time limits. As an example, perhaps a restaurant is using the display. The kitchen enters table “14” into the transmitter. The number “14” also shows on the display, letting the server know the food for table 14 is ready.

After three minutes (or the **slow blink time**), number 14 starts to blink slowly, meaning that table 14’s food has been sitting for a little while. After five minutes (or the **fast blink time**), number 14 will begin to blink rapidly, letting the wait staff or expeditor know that table 14’s food needs to be picked up immediately.

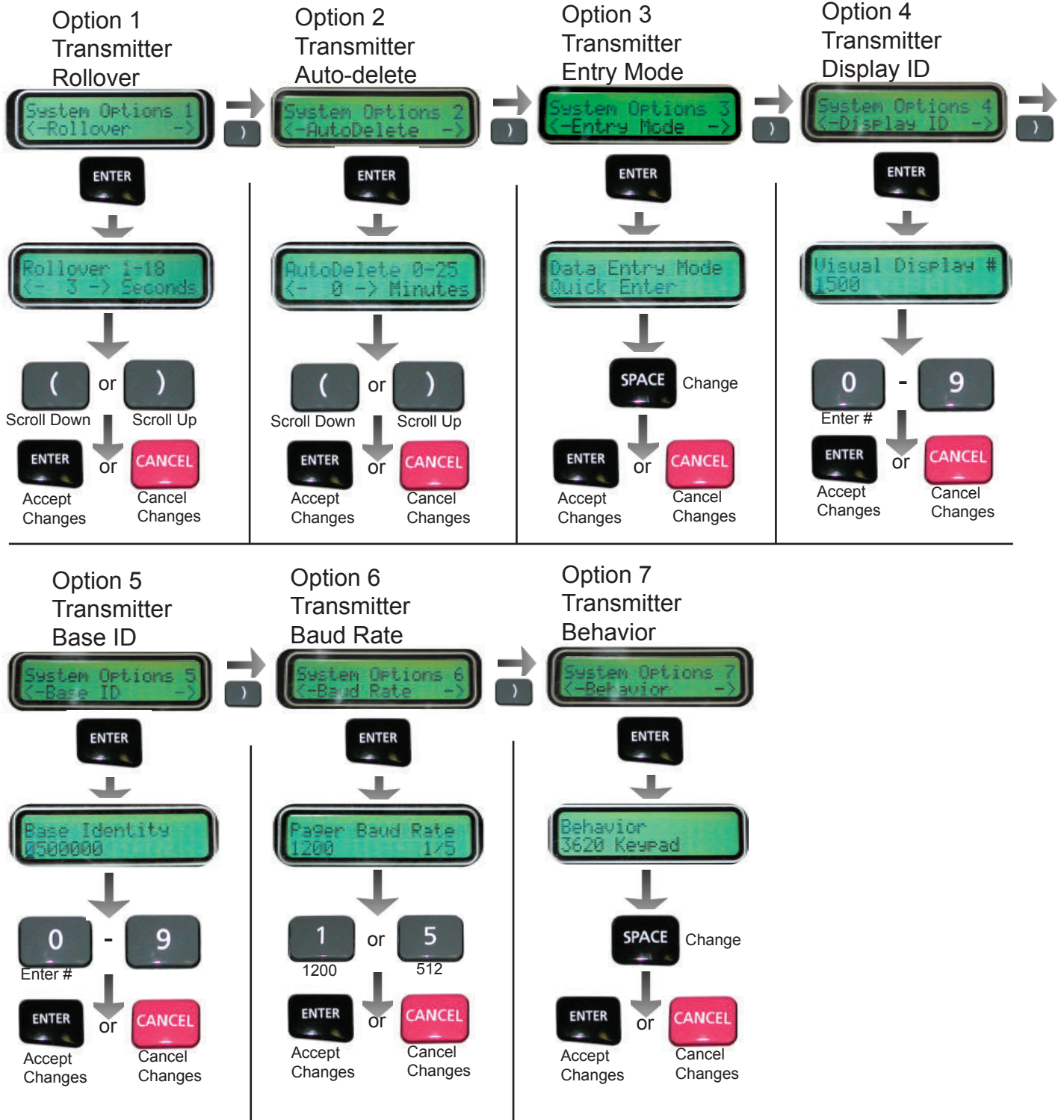
#### **Chime Setting**

Determines the duration an external chime will sound. The chime is triggered the first time a new number is displayed (for programming instructions, see Appendix B).

# Appendix A: Transmitter Programming Options

To access these programming options for the transmitter, Press “(“ on the keypad to enter programming mode. You may scroll through all seven options by using the “(“ or “)” buttons.

\* Settings shown are factory defaults.



# Transmitter Programming Instructions

## **1.6 Transmitter Configuration**

To access the programmable options, simply press the “(“ bracket at the Ready screen. Then press the “(“ or “)” brackets to move through the list of options. When you come to an option you would like to change, press “**ENTER.**” Depending on the option, you can either press the “(“ and “)” keys to change the value of the option, or you can type in the desired number value. To return to the main options menu press “**ENTER.**” When finished making changes, simply press the “**SEND**” key to save the changes or the “**CANCEL**” key to discard your changes.

### **Option 1: Transmitter Rollover Time**

The time that each number in the transmitter memory shows on the LCD screen before rotating to the next number.

**NOTE: The transmitter rollover time is completely independent of the wireless UHF display rollover time.**

### **Option 2: Transmitter Auto-delete Time**

The time that a number remains on the wireless UHF display before it is automatically deleted.

**NOTE: The wireless UHF display has an independent auto-delete time which is set following the instructions in the wireless UHF display section.**

The factory default for the wireless UHF display delete time is 42 minutes. The reason for having an auto delete time in the display, as well as the transmitter, is best understood by the following example. At the end of the day, a user may unplug the transmitter to turn it off. If there are numbers being shown on the display when the transmitter is turned off, the numbers will remain on the wireless UHF display until the display’s auto delete removes them.

### **Option 3: Transmitter Entry Mode**

Causes the transmitter to assume enter or delete when a number is typed in.

### **Option 4: Display ID - Main Remote Display Address**

The specific display identity (0001-9998) to which the transmitter will be broadcasting. Each display may have a different address.

### **Option 5: Transmitter Base ID**

The common base number (*\* see note below*) for all transmitters and displays in a system. This can be used to keep multiple systems separate. Typically changed in multiples of 100,000, changing this option will require reprogramming all displays in your system.

### **Option 6: Transmitter Baud Rate**

The communications rate common to displays and pagers. At 512 baud a transmission takes 2.1 seconds. At 1200 baud, a transmission takes 0.9 seconds. Changing this option will require reprogramming all units in your system.

### **Option 7: Behavior (2-Digit or 3-Digit)**

Allows users to toggle the setting of the transmitter for use with 2-digit or 3-digit displays.

*\* = The Base ID of a system can be thought of as a neighborhood with house addresses corresponding to pager numbers.*

## Appendix B: Display Programming Instructions

To change the programmable options on the display, you must transmit special codes to the display. These special codes are described below.

### **CHANGING A PROGRAMMABLE OPTION USING THE 3610 TRANSMITTER**

Press “**SPACE**” to get to the pager prompt. Type 9999 “**ENTER.**” At the beep type prompt press “**ENTER.**” At the message prompt type the area to change as a two-digit number. Add a space. Then type the value to set as a two-digit number. Press “**SEND**” to set the display option.

As an example we will change the rollover time to 1 second per number. The message format will be “01\_01.” First, press “**SPACE,**” now type “**9999**” on the keypad and press “**ENTER.**” Skip the beep type prompt by pressing “**ENTER.**” At the message prompt type in “**01**” “**SPACE**” “**01**” and “**SEND.**” The transmitter will show it is sending the message. The display will reflect the change by immediately changing the delay between numbers to one second.

The following user programmable display options can be changed using the Model 3610 Transmitter:

- 0 ...Number Source
- 1 ...Rollover
- 2 ...Auto-delete
- 3 ...Chime
- 4 ...Slow Flash
- 5 ...Fast Flash

### **0 Setting the Display Number Source**

Set area 00 to a value of 0000-9999. If the value is non-zero, the display will listen for that pager number and show the message. Otherwise, it will show the pager # paged. The default is to listen for messages (numbers) on pager 1500.

### **1 Setting the Display Rollover Time**

Set area 01 to any value from 00-09. Each unit is 1 second. The default is 3 seconds (03). 00 means the display will only show the last number received (no rollover).

### **2 Setting the Display Auto-Delete Time**

Set area 02 to any value from 00-42. Each unit is 1 minute. The default is 42 minutes (42). 00 means the auto-delete is disabled.

### **3 Setting the Display Chime Duration**

Set area 03 to any value from 00-99. Each unit is 0.1 seconds. The default is 0.3 seconds (03). 00 means the chime is disabled.

### **4 Setting the Display Slow-Flash Time**

Set area 04 to any value from 00-99. Each unit is 10 seconds. The default is 90 seconds (09) – 1.5 minutes. “00” disables the slow-flash function.

### **5 Setting the Display Fast-Flash Time**

Set area 05 to any value from 00-99. Each unit is 10 seconds. The default is 180 seconds (18) – 3 minutes. “00” disables the fast-flash function.

## **CLEARING THE DISPLAY**

Setting area 99 to a value of 98 will clear all numbers from the wireless UHF display.

## **RESETTING DISPLAY TO FACTORY DEFAULTS**

Setting area 99 to a value of 99 will reset all program areas to factory defaults.

## **SETTING THE DISPLAY OPTIONS**

All display options are over-the-air programmable. By sending a properly formatted message, display settings may be changed. The command channel for programming options is pager 9999. The message format is generally AA VV, where A is the area and V is the value. The one exception is area 00, where format is AA VVVV.

<b>Area</b>	<b>Value</b>	<b>Default</b>	<b>Description</b>
00	0000		Show pager # paged
00	0001-9999	1 500	Show message of page r specified
01	00		Do not rotate the numbers
01	01-09	3	Rollover time (seconds)
02	00		Do not auto-delete
02	01-42	42	Auto-delete time (minutes)
03	00		Never chime
03	01-99	3	Chime duration (0.1 second interval)
04	00-99	9	Slow flash time (10 second interval), "00" disables
05	00-99	18	Fast flash time (10 second interval), "00" disables
99	98		Clear all numbers from display
99	99	N/A	Reset display to factory defaults

## **DISPLAY BASE ID**

The Model 3620 display comes set with a base id of 500,000. You should only have to change the base id if you have changed the default on the transmitter. Please contact Microframe first before changing the default.

### **TO SET A NEW DISPLAY BASE ID:**

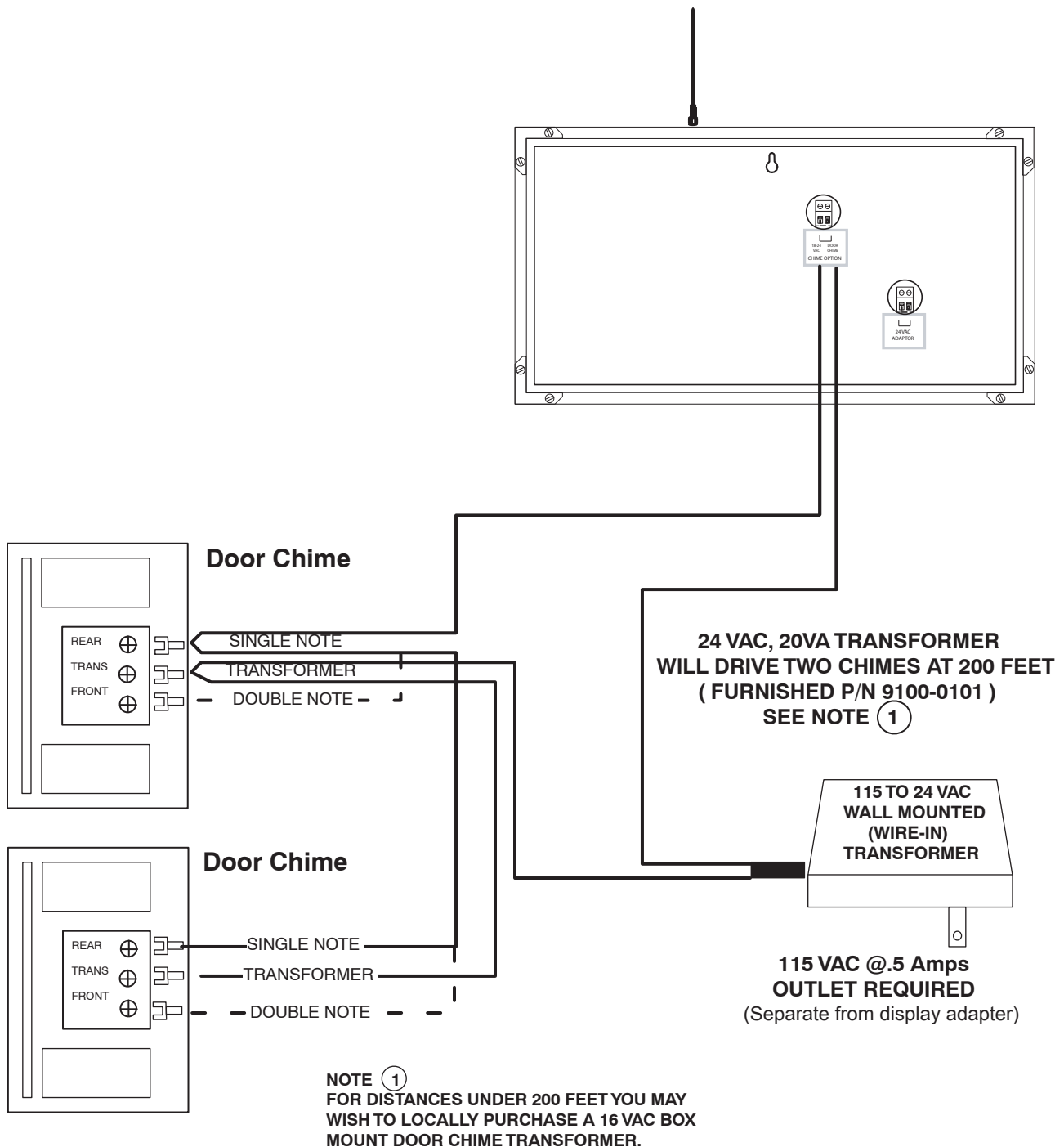
Plug in the wireless UHF display. On the transmitter, page pager # 1 with a beep type of 2 and a message of 7337. The display will auto learn the transmitter identity and save it. It will signify successful programming by showing horizontal bars for about five seconds. You should not have to repeat this step unless your paging system changes. Note: The display will accept this command only within the first 30 seconds after turn on.

# Appendix C: Triac Driver for External Chime

## **CONNECTION DIAGRAM**

The Model 3620 Triac Driver Option provides a Two Terminal Output of sufficient amperage to control several standard doorbell chimes. The recommended connection shown below may vary depending on the type of door chime selected and whether a single or double note is desired.

### **Model 3620 Wireless UHF Display**



## Troubleshooting

Your 3600 Series display and transmitter is designed to be reliable and easy to use. This section answers frequently asked questions and contains information about the following topics:

- Error messages
- Hardware problems
- Programming problems

### **Problem**

My Model 3610 Transmitter shows this when I turn it on:



### **Solution**

1. This is the first time the transmitter has been turned on. Defaults need to be set (Press "1" for "yes").
2. One or more option areas have become corrupted. It is recommended that you write down the correct settings, reset defaults, and then make any changes to settings that are necessary. (See Appendix A.)
3. The "0" button is being held down during turn on. This is a deliberate reset. Press "1" for "yes" to reset factory defaults.

Please call Microframe if you need assistance.

# Model 3610 Specifications

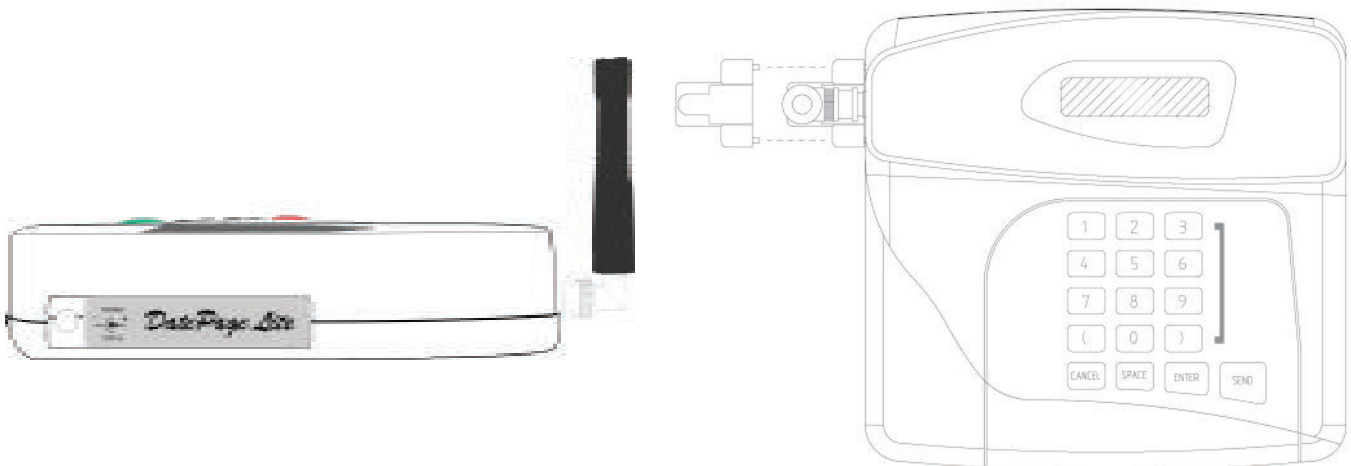


FEATURES	
Mounting	Desk or Tabletop
Display Compatibility	Model 3620, Model 3520, Model 3430, Model 3530
Range	1/4 to 1/2 mile typical, 1 mile maximum
Display Quantity	Unlimited
Numbers Stored in Transmitter	40 2-digit numbers, or 25 3-digit numbers
Power Requirements	12VDC 0.5 Amp supplied by Scope adapter (input 120VAC)
Size	9" x 7.5" Footprint
Supplied Accessories	Antenna, 12VDC adapter
Baud Rate	512, 1200



## Features

The Model 3610 Transmitter is designed to accept numbers typed into the transmitter and display them on a wireless UHF display. Depending on the mode, the transmitter can either show six 2-digit numbers at a time or four 3-digit numbers.



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# Model 3520 Specifications

DISPLAY FEATURES	
Mounting	Wall Mount
Character Size	5.5-inch (14 cm)
Display Width	9.8 inches
Display Height	9.1 inches
Weight	2.5 lbs (1.6 kg)
Maximum Distance from Transmitter	1/4 to 1/2 mile typical, 1 mile maximum
Flashing Numbers	Not available
Power Requirements	24 VAC 1.2A Supplied by Adapter which requires 115 Volts AC @ .72 Amps
Number Capacity	Twenty 2-digit numbers
Viewing Distance	125 feet indoors
Baud Rate	512, 1200
Supplied Accesories	24 VAC 1.2A Adapter, Wireless Antenna

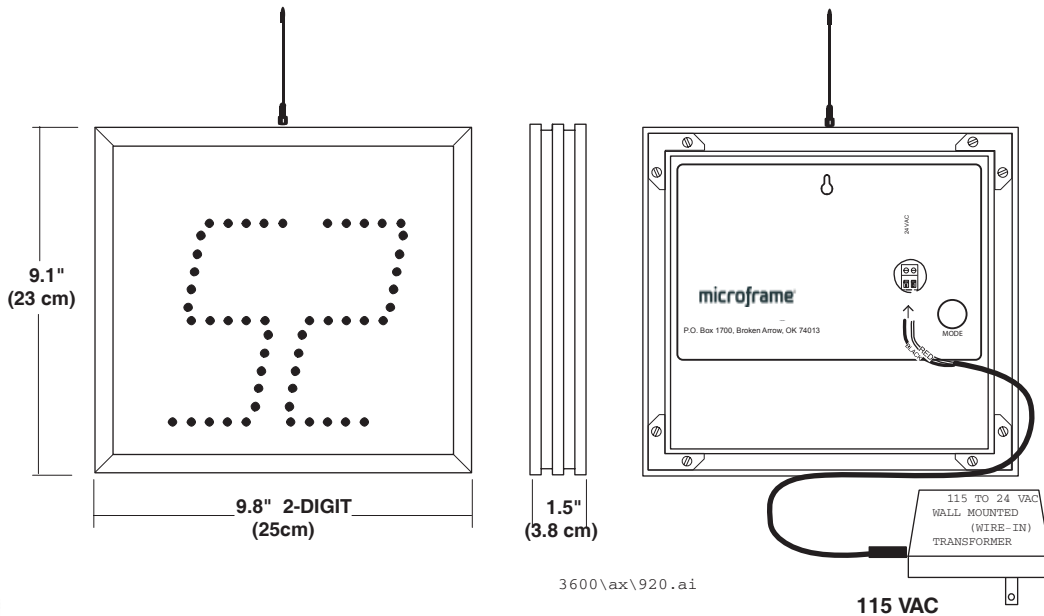


### Features

The Model 3520 Wireless UHF Display is designed to show and rotate through one 2-digit number at a time. The Model 3520 display has 5.5-inch tall digits viewable up to 125 feet and is encased in an aluminum extruded case. 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 with sunlight brightness for easy viewing..

### Operation

The Model 3520 Wireless UHF Display is designed to operate with the Microframe Model 3610 Transmitter. An unlimited quantity of displays can be used with one transmitter.



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# Model 3620 Specifications



DISPLAY FEATURES	
Mounting	Wall Mount
Character Size	2.5-inch (6.4 cm)
Display Width	16.8 inches
Display Height	9.1 inches
Weight	3.5 lbs (1.6 kg)
Maximum Distance from Transmitter	1/4 to 1/2 mile typical, 1 mile maximum
Flashing Numbers	Available
Power Requirements	24 VAC 1.2A Supplied by adapter which requires 115 Volts AC @ .72 Amps
Number Capacity	Thirty 2-digit numbers
Viewing Distance	80 feet
Baud Rate	1200
SUPPLIED ACCESSORIES	24 VAC 1.2A Adapter, Wireless Antenna

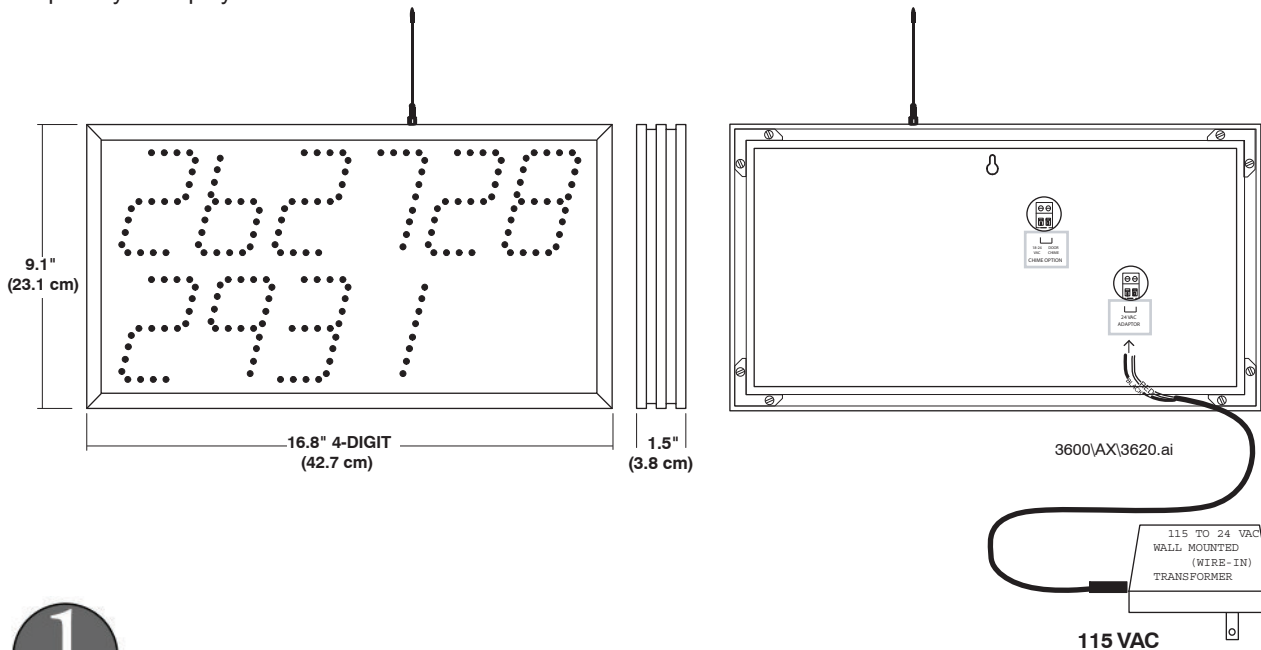


### Features

The Model 3620 Wireless UHF Display is designed to show up to six 2-digit numbers at a time. It also has the ability to flash the numbers after a set period of time. The display has 2.5-inch tall digits viewable up to 80 feet and is encased in an aluminum extruded case. 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 with sunlight brightness for easy viewing.

### Operation

The Model 3620 Wireless UHF Display is designed to operate with the Microframe Model 3610 Transmitter. An unlimited quantity of displays can be used with one transmitter.



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# Model 3530 Specifications

DISPLAY FEATURES	
Mounting	Wall Mount
Character Size	5.5-inch (14 cm)
Display Width	13.2 inches
Display Height	9.1 inches
Weight	3.0 lbs
Maximum Distance from Transmitter	1/4 to 1/2 mile typical, 1 mile maximum
Flashing Numbers	Not available
Power Requirements	24 VAC 1.2A Supplied by Adapter which requires 115 Volts AC @ .72 Amps
Number Capacity	Twenty 3-digit numbers
Viewing Distance	125 feet indoors
Baud Rate	512, 1200
SUPPLIED ACCESSORIES	24 VAC 1.2A Adapter, Wireless Antenna

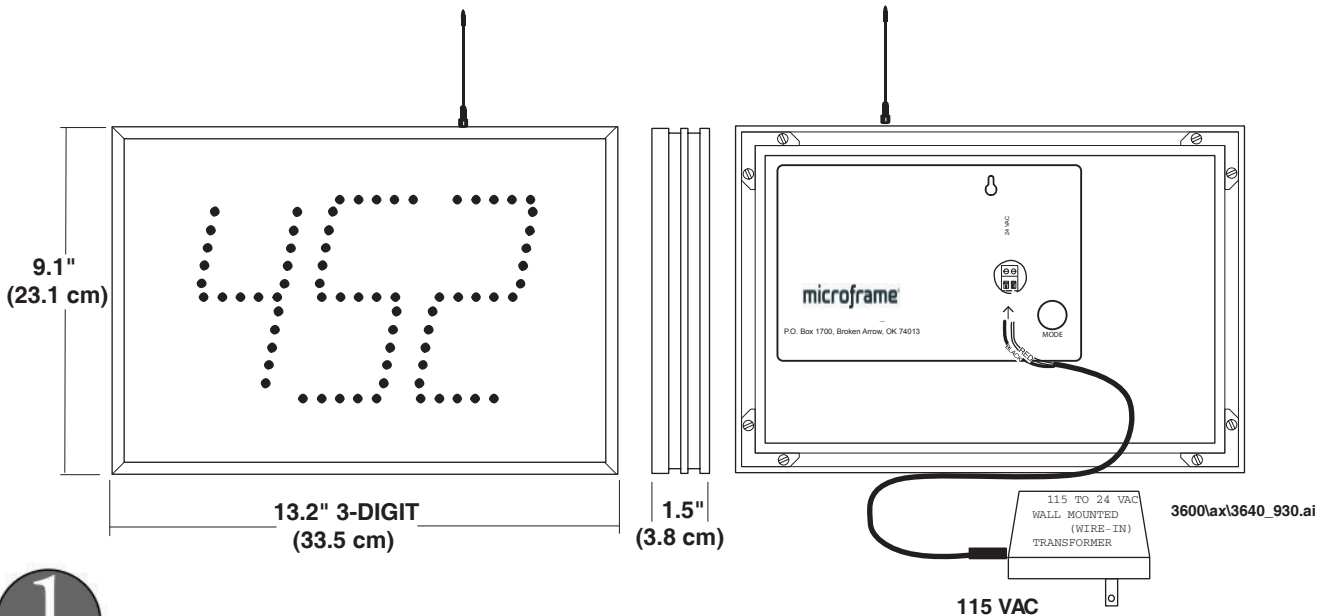


### Features

The Model 3530 Wireless UHF Display is designed to show and rotate through one 3-digit number at a time. The Model 3530 display has 5.5-inch tall digits viewable up to 125 feet and is encased in an aluminum extruded case. 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 with sunlight brightness for easy viewing..

### Operation

The Model 3530 Wireless UHF Display is designed to operate with the Microframe Model 3610 Transmitter. An unlimited quantity of displays can be used with one transmitter.



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# Model 3430 Specifications



DISPLAY FEATURES	
Mounting	Wall Mount
Character Size	2.5-inch (6.4 cm)
Display Width	16.8 inches
Display Height	9.1 inches
Weight	3.5 lbs (1.6 kg)
Maximum Distance from Transmitter	1/4 to 1/2 mile typical, 1 mile maximum
Flashing Numbers	Available
Power Requirements	24 VAC 1.2A Supplied by adapter which requires 115 Volts AC @ .72 Amps
Number Capacity	Twenty-five 3-digit numbers
Viewing Distance	80 feet
Baud Rate	1200
SUPPLIED ACCESSORIES	24 VAC 1.2A Adapter, Wireless Antenna

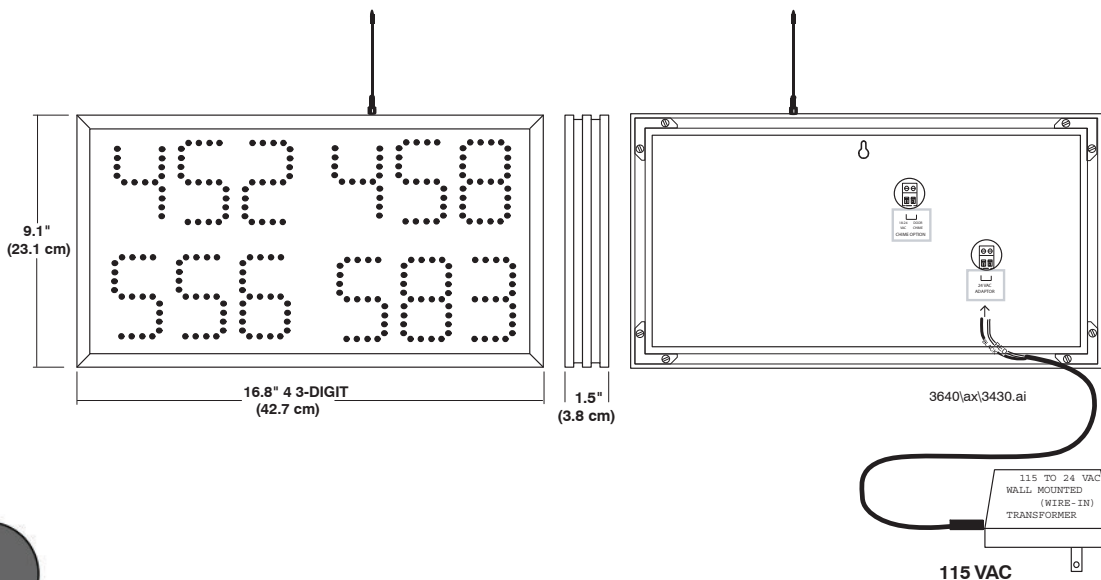


### Features

The Model 3430 Wireless UHF Display is designed to show up to four 3-digit numbers at a time. It also has the ability to flash the numbers after a set period of time. The display has 2.5-inch tall digits viewable up to 80 feet and is encased in an aluminum extruded case. 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 with sunlight brightness for easy viewing.

### Operation

The Model 3430 Wireless UHF Display is designed to operate with the Microframe Model 3610 Transmitter. An unlimited quantity of displays can be used with one transmitter.



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## Owners Info

Display Serial Number(s): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Transmitter Serial Number(s): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date of Original Purchase: \_\_\_\_\_

Correct Settings: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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