

BRGPRECISION
PRODUCTS

The World's First GPS Controlled Wireless Clock System

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READ THIS FIRST

WARNING: DO NOT INSTALL BATTERIES IN THE ANALOG CLOCKS UNTIL THE HANDS HAVE BEEN CHECKED FOR ALIGNMENT

Setting up the BRG **Solartime** Wireless Synchronized Clock System.



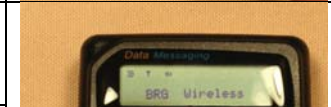

Thank you for purchasing a **Solartime** Wireless Synchronized Clock System from BRG Precision Products. We hope our quality products provide you with years of worry free service.

We have developed this setup procedure to help you have a more pleasant experience right out of the box.

The following steps are recommended to ensure your clock system is functional prior to placing the transmitter and analog clocks in their operational location.

Step 1. Testing for an active transmitter in the area.

To test for the presence of another active transmitter in the area please follow the steps below:

<p>1. Insert a AAA battery into the pager that was included in your shipment and turn it on. In a few seconds, the pager will start and sound an alert tone.</p>	
<p>2. Press the large button on the pager to silence it.</p>	
<p>3. Wait 2-3 minutes to see if the pager alert sounds. Pages should not occur – if they do, contact BRG Technical support at 800-295-0220 before proceeding.</p>	
<p>4. After 2-3 minutes, if the pager has not sounded an alert tone, then remove the battery from the pager and proceed to Step 2. NOTE: If a transmitter were running in your area on the factory preset frequency, pages would occur on your pager at 1-minute intervals, at the top of the minute.</p>	

Step 2. Checking the hand alignment on the *Solartime* analog clocks


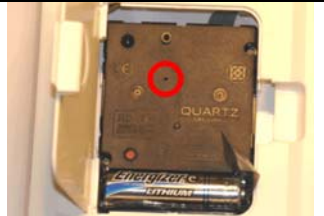

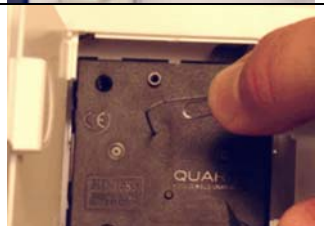


WARNING: DO NOT INSTALL BATTERIES IN THE *Solartime* ANALOG CLOCKS UNTIL THE HANDS HAVE BEEN CHECKED FOR ALIGNMENT


All BRG clocks receive a 100% functional test at our factory, but hand misalignments may occur due to rough handling in transit to your facility. Use this step to see if the hands have become misaligned in shipment. Perform the following steps prior to powering up the transmitter:

1. Before installing each clock, check that all hands are at 12:00.
2. Do not install clocks that are not aligned at 12:00. Go to Step 3 to realign any analog clocks that are out of alignment or call BRG Technical Support at 800-295-0220 for assistance.
3. Place all clocks that pass the alignment test into a separate group and proceed to Step 4.

Step 3. Analog clock hand realignment procedure

This step shows you how to realign any analog clocks that might have become misaligned during shipping. Contact the BRG Technical Support department at 800-295-0220 if you are uncomfortable performing these steps.

<p>1. Place the clock face down on a flat surface. Remove the front lens of your analog clock by removing the screws on the back of the clock. NOTE: Some clocks with a plastic lens do not use screws to hold the lens in place. To remove this type of lens, carefully pry the lens out of the face of the clock. WARNING: Make sure that the Mylar strip under the AA lithium battery has NOT been removed. If strip has been removed and the clock is running, remove the battery from the clock movement before proceeding.</p>	
<p>2. Turn the clock face down and locate the pin hole in the back of the movement.</p>	
<p>3. Take a regular paperclip and bend one end out like the photo to the right.</p>	
<p>4. Gently push the paper clip into the pin hole. You should feel it pass through the gears and lock them in place. The paper clip should enter the clock approximately 5/8" deep. If little or no resistance is felt, continue to procedure 5. WARNING: If you feel resistance when inserting paperclip through the pin hole, STOP and return clock to the BRG factory.</p>	
<p>5. While holding the pin in place, to keep the clock movement locked, turn the clock face up.</p>	
<p>6. Move the tip of the hand in need of adjustment with your finger until it lines with the other hand at the 12:00 position. WARNING: Do not use hand tools for this adjustment.</p>	



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| <p>7. If the hands will not stay in the 12:00 position, remove the hand(s) by pulling them off with two fingers on each side of the clock movement shaft. Then rotate and gently reseat the hands back on the clock movement shaft in the 12:00 position.</p> |  |
| <p>8. Once the realignment is accomplished, remove the paper clip from the pin hole at the back of the clock. WARNING: Installing the battery before removing the pin will damage the clock movement.</p> | |
| <p>9. Reinstall the screws in the back and install the AA Lithium battery. NOTE: Some clocks with a plastic lens do not use screws to hold the lens in place. To reinstall this type of lens, carefully push the lens in place on the face of the clock.</p> | |


Step 4. Solartime Master Transmitter Clock Setup

In Step 4 you will setup the **Solartime** Master Transmitter Clock and test to see if it is transmitting time to the secondary clocks.

The key to a successful installation of the master transmitter clock is finding a central location. The BRG secondary clock movement has a very specialized UHF radio receiver that is tuned to receive the signals from the BRG Master Clock. The signal is an FM radio signal. Reception is unaffected by outdoor weather conditions. Although the clock can work in most locations, it may not work if located in a location shielded from radio signals. If the secondary clock fails to receive the time signal, try repositioning the analog or master clock. The master clock transmitter should be centrally located within the facility/campus, higher locations are best.

NOTE: If you are installing the master clock in a multi-story building. Install the master mid level floor. i.e. install clock on the 5th floor of a 10 floor building.

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| <p>1. Remove your master clock from its packaging and connect it to the time source (GPS, Ethernet or IRIG-B) and plug in to a 110 volt receptacle. NOTE: CDMA master transmitter clocks will locate the nearest cellular tower after power is connected.</p> |  |
| <p>2. When connected to power, the master transmitter clock will illuminate the hour/minute/seconds.</p> |  |

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| <p>3. After 3-5 minutes, a light will illuminate on the clock display, just right of the minutes. This light indicates that the master clock has located and synchronized with the time source.</p> |  |
| <p>4. If the master clock doesn't sync within 10 minutes check your connections (GPS, Ethernet, IRIG-B). After ensuring that the connections to the time source are properly attached, and the sync indication light doesn't illuminate after 3-5 minutes, contact BRG Technical Support at 800-295-0220.</p> | |



Step 5. Testing the *Solartime* Master Transmission Clock Signal



In this step you will use the pager to see if the master clock is transmitting a time signal.
NOTE: This same step can be used when installing the analog clocks to make sure that the clock will receive a signal in the location that you are planning to install it.

1. Turn on the pager that was used in Step 1.
2. The pager will beep at the top of each minute if it is receiving a signal.
3. If the pager is not beeping at the top of each minute call BRG Technical Support at 800-295-0220.
4. If the pager is receiving a signal at the top of each minute then you are ready to proceed to Step 6. You can turn the pager off now.

Step 6. Analog Secondary Clock Setup

In this step you will activate the analog clocks and set them to receive the time signal from the master clock.



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| <p>1. Turn the analog clock face down to display the back and open the door.</p> |  |
| <p>2. Remove the Mylar battery isolator and ensure that the battery is firmly in place. The clock should begin running. NOTE: The clock should already be set to 12:00 from the factory.</p> |  |

<p>3. The hands will move from 12:00 to 4:00 and await the time broadcast from the master clock.</p>	
<p>4. If the signal is strong, the clock will begin moving to the correct time within 2 to 3 minutes. If the clock moves to the correct time you are ready to install the clock.</p>	
<p>5. If the signal is weak, or the clock is unable to receive the signal, the hands will not move off of 4:00. The clock will attempt to receive the signal once each hour for the next 24 hours. After 24 hours, if there is still no signal, the hands will move, but not to the correct time. The clock will search for the signal on the odd hours, every two hours (1, 3, 5, etc.). This indicates that there is no reception at this location. NOTE: The BRG Pager can also be used to check for a signal in the problem location.</p>	
<p>6. When the clock receives a signal and has moved to the correct time, it is ready to install.</p>	

NOTE: The master clock transmitter sends the time to analog clocks once a minute and to digital clocks every ten minutes, at the top of the minute. The time transmission to digital clocks occurs at 1, 11, 21, 31, 41, and 51 minutes after the hour.

Step 7. Digital Secondary Clock Setup

In this step you will activate the digital secondary clocks.

<p>1. Remove the digital secondary clock from it's packaging.</p>	
<p>2. Locate where you are going to install the clock. Make sure that your electrical receptacle is within reach of the cord provided with your clock.</p>	

3. Plug in the clock into the 110v receptacle and hang clock on the wall. It will automatically sync to the master clock within 10 minutes. **NOTE:** The BRG Pager can also be used in this step to check for a signal in this location.



Step 8. Tips to improving radio signal reception

To improve the radio signal reception:

- Do not place the clock too close to household appliances such as televisions, computer speakers, DVD players and fax machines.
- Do not place the clock on top of, or close to metal surfaces.
- Reposition the master clock antenna.
- Obtain a more powerful master clock or a second master clock to be positioned in another part of the building or campus.

Radio signal reception may be blocked by:

- Rooms Shielded against radio signals.
- Radio interference on the same channel.

Step 9. Caring for your clocks

- Replace the lithium AA battery every five years or whenever the clock loses its ability to sense the radio signal while in normal use.
- Remove battery when not in use.
- Clean your clock with a mild cleanser and a soft cloth or paper towel. Do not use any corrosive cleansers or chemical solutions on the clock.
- Keep the clock clean and dry to avoid any problems.
- Operating the clock when outside the range of the master clock will greatly reduce the battery life.

This concludes our wireless clock setup steps. If you have any questions or concerns about your new BRG **Solartime** Wireless Synchronized Clock System, feel free to contact our Customer Support Team at 800-295-0220.